

priority # ~~3~~  
3

Access DB# 139654

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Sh J. Lee Examiner #: 76060 Date: 11-30-04  
Art Unit: 1752 Phone Number 302-1333 Serial Number: 10/773,990  
Mail Box and Bldg/Room Location: 9D69 Results Format Preferred (circle): PAPER DISK E-MAIL

**If more than one search is submitted, please prioritize searches in order of need.**

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Plz. See B.T. sheet

Inventors (please provide full names): \_\_\_\_\_

Earliest Priority Filing Date: \_\_\_\_\_

*\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.*

Please search for the sensitizer  
of claim #3

SCIENTIFIC REFERENCE BR  
Sci. & Tech. Info. Cntr

DEC 7

Pat. & T.M. Office

\*\*\*\*\*  
STAFF USE ONLY

Type of Search

Vendors and cost where applicable

=> file reg  
FILE 'REGISTRY'  
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FILE 'LREGISTRY'
L1      STR

FILE 'REGISTRY'
L2      1 S L1
L3      SCR 1840 AND 1139 AND 1121
L4      9 S L1 AND L3

FILE 'LREGISTRY'
L5      STR L1
L6      STR

FILE 'REGISTRY'
L7      5 S (L5 NOT L6) AND L3
L8      334 S (L5 NOT L6) AND L3 FUL
        SAV L8 LEE990/A

FILE 'HCA'
L9      314433 S IMAGE# OR IMAGING# OR IMAGEING# OR IMAGEAB? OR IMAGAB?
L10     88879 S ENERG?(2A) (INTENSIT? OR FLUX? OR FIELD?) OR MW OR MILLI
L11     270 S L8
L12     42 S L11 AND L9
L13     3 S L11 AND L10

FILE 'HCAPLUS'
L14     4452 S BARR ?/AU
L15     1526 S FAHEY ?/AU
L16     11164 S OCONNOR ?/AU OR CONNOR ?/AU OR O CONNOR ?/AU
L17     80 S PISKORSKI ?/AU
L18     0 S L14 AND L15 AND L16 AND L17
L19     2 S L14 AND L15
L20     19 S L14 AND L16
L21     0 S L14 AND L17
L22     3 S L15 AND L16
L23     0 S L15 AND L17
L24     0 S L16 AND L17
L25     24 S L18-L24
L26     1 S L25 AND L9
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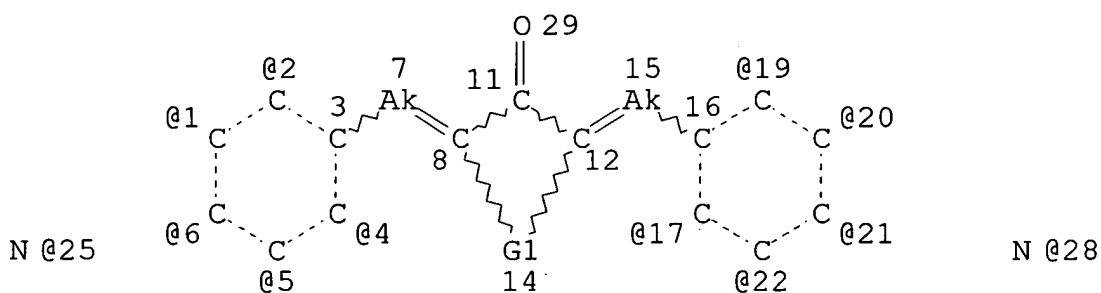
## FILE 'HCA'

L27 117028 S SENSITIZ? OR PHOTSENSITIZ?  
 L28 36846 S (CHANG? OR VARY? OR VARIED OR VARIAB? OR MODIF? OR ALTE  
 L29 46 S L11 AND L27  
 L30 0 S L11 AND L28  
 L31 12 S L12 AND L29  
 L32 12 S L31 NOT L13  
 L33 30 S L12 NOT (L13 OR L32)  
 L34 32 S L29 NOT (L13 OR L32 OR L33)  
 L35 928717 S (MIXT# OR MIXTURE? OR BLEND? OR ADMIX? OR COMMIX? OR IM  
 L36 15 S L34 AND L35  
 L37 16 S L33 AND L35  
 L38 14 S L33 NOT L37

## FILE 'REGISTRY'

=&gt; d l8 que stat

L3 SCR 1840 AND 1139 AND 1121  
 L5 STR



REP G1=(1-5) C  
 VPA 28-19/20/21/22/17 U  
 VPA 25-4/5/6/1/2 U  
 NODE ATTRIBUTES:  
 NSPEC IS RC AT 25  
 NSPEC IS RC AT 28  
 DEFAULT MLEVEL IS ATOM  
 DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
 RSPEC 12  
 NUMBER OF NODES IS 21

STEREO ATTRIBUTES: NONE  
 L6 STR

N=N  
1 2

NODE ATTRIBUTES:  
DEFAULT MLEVEL IS ATOM  
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:  
RING(S) ARE ISOLATED OR EMBEDDED  
NUMBER OF NODES IS 2

STEREO ATTRIBUTES: NONE  
L8 334 SEA FILE=REGISTRY SSS FUL (L5 NOT L6) AND L3

100.0% PROCESSED 71281 ITERATIONS 334 ANSWERS  
SEARCH TIME: 00.00.01

=> file hca  
FILE 'HCA'  
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=> d 113 1-3 cbib abs hitstr hitind

L13 ANSWER 1 OF 3 HCA COPYRIGHT 2004 ACS on STN  
129:217399 Manufacture of photosensitive polyimide precursors and their compositions having stable viscosity. Yoshikawa, Haruhiko; Takemoto, Kazunari; Tanaka, Osamu; Isoda, Keiko; Uchimura, Shunichiro; Kaji, Makoto; Kanao, Osamu (Hitachi, Ltd., Japan; Hitachi Chemical Co., Ltd.). Jpn. Kokai Tokkyo Koho JP 10204176 A2 19980804 Heisei, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-10941 19970124.

AB The polyimide precursors representing repeating units [COR1(CO2R3)2CONHR2AnNH] (R1 = C.gtoreq.4 tetravalent org. groups; R2 = trivalent or tetravalent org. groups contg. arom. rings; R3 = monovalent org. groups; A = acidic monovalent groups; n = 1, 2) and having Mw 10,000-200,000, are prepd. in the presence of hardly water-sol. polymn. inhibitors. The compns., useful for photoresists or elec. packaging, etc., the polyimide precursors 100, sensitizers 0.1-50, and photopolymn. assistants 0.1-50 parts. Thus,

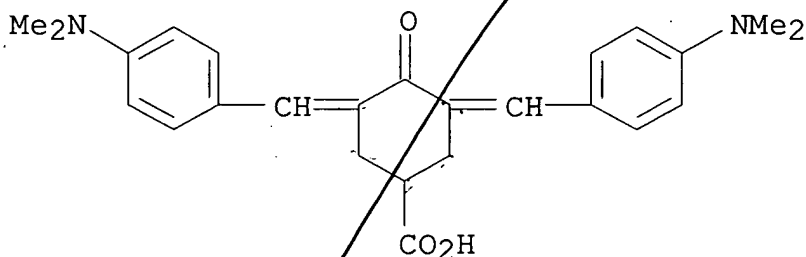
acid chloride prepd. from 3,3',4,4'-biphenyltetracarboxylic acid dianhydride, 2-hydroxyethyl methacrylate, and thionyl chloride, was reacted with 3,5-diaminobenzoic acid in the presence of 3,5-di-tert-butylcatechol to give a polyimide precursor ( $M_w$  calcd. as polystyrene 44,000), 10 g of which was mixed with 100 mg 3,5-bis(4-diethylaminobenzylidene)-1-methyl-4-azacyclohexanone and 200 mg 4-diethylaminoethyl benzoate to give a compn. showing viscosity at 25.degree. 4.50 mPas and 4.60 mPas before and after 1-wk storage at room temp, resp. Then, a coating film prepd. by applying the compn. to a silicon wafer, was exposed to 365 nm-UV radiation at 200 mJ/cm<sup>2</sup>, developed, and cured at 200.degree. for 30 min and 400.degree. for 60 min to give a polyimide film showing elongation 9% and sensitivity 80 mJ/cm<sup>2</sup>.

IT 212136-95-3

(sensitizers; manuf. of photosensitive polyimide precursors compns.)

RN 212136-95-3 HCA

CN Cyclohexanecarboxylic acid, 3,5-bis[[4-(dimethylamino)phenyl]methylen]-4-oxo- (9CI) (CA INDEX NAME)



IC ICM C08G073-10

CC 37-6 (Plastics Manufacture and Processing)  
Section cross-reference(s): 74

IT 82-05-3, Benzanthrone 90-94-8, Michler's ketone 91-44-1,  
7-Diethylamino-4-methylcoumarin 4367-02-6 82799-44-8,  
2,4-Diethylthioxanthone 212136-95-3  
(sensitizers; manuf. of photosensitive polyimide precursors compns.)

L13 ANSWER 2 OF 3 HCA COPYRIGHT 2004 ACS on STN

100:129999 Use of .alpha.,.alpha.-bis(dialkylaminobenzylidene) ketone dyes in optical recording elements. Specht, Donald P.; Thomas, Harold T. (Eastman Kodak Co., USA). U.S. US 4415621 A 19831115, 5 pp. Cont.-in-part of U.S. Ser. No. 124,382, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1982-347761 19820211. PRIORITY: US 1980-124382 19800225.

GI For diagram(s), see printed CA Issue.

AB .alpha.,.alpha.-Bis(dialkylaminobenzylidene) ketone (I; R = C1-6

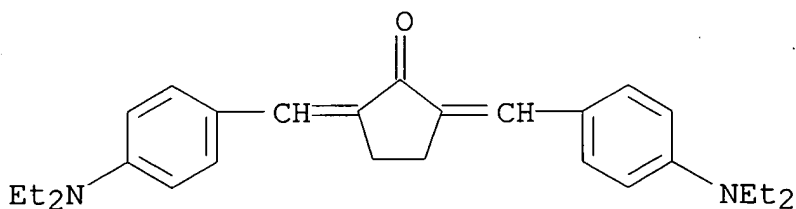
alkyl; Z = (CH<sub>2</sub>)<sub>n</sub> or CH<sub>2</sub>NMeCH<sub>2</sub> where n = 0-5) dyes having a high extinction coeff. ( $\geq 2.0$ ) at 488 nm are useful in deformable recording compns. for optical recording elements, e.g., video disks. Thus, a circular glass support was whirl-coated with a surface-smoothing compn. contg. pentaerythritol tetraacrylate 20, Topcoat 874-C-200az (UV-curable urethane acrylate monomer) 20, 2-ethoxyethanol 60, a coumarin sensitizer 3 g, and a surfactant 3 drops, cured by irradiating with a Xe arc lamp, a layer of Al deposited, and a recording layer then coated thereon from a compn. contg. 2,5-bis(4-diethylaminobenzylidene)cyclopentanone 1, cellulose nitrate 1, and cyclohexanone 60 g. Tracks were then recorded in this layer by an Ar ion laser beam (488 nm) while the disk was rotating at 1800 rpm. When read back with a He-Ne laser beam (633 nm) of .apprx.1 mW, the signal-to-noise ratio was .apprx.50 for an incident write power of .apprx.10 mW.

IT 38394-53-5 80601-02-1

(laser optical recording material with photosensitive layer contg.)

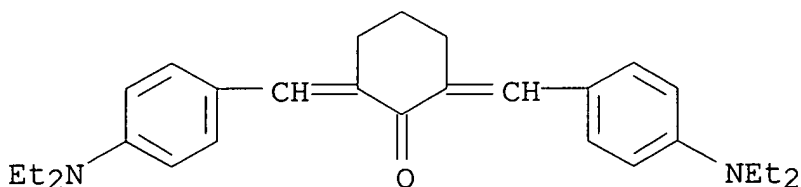
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC B41M005-24; G01D015-34

NCL 428172000

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 38394-53-5 61445-93-0 80601-02-1 89022-58-2

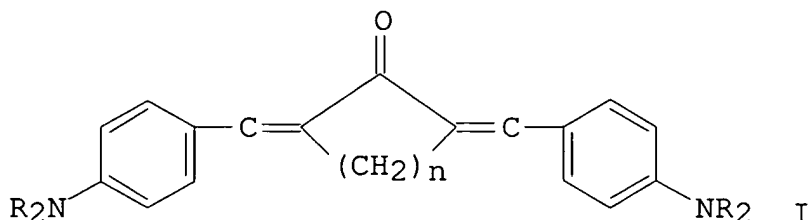
(laser optical recording material with photosensitive layer)

contg.)

L13 ANSWER 3 OF 3 HCA COPYRIGHT 2004 ACS on STN

93:140931 .alpha.,.alpha.'-Bis(dialkylaminobenzylidene) ketone dyes and their use in optical recording elements. Anon. (UK). Research Disclosure, 194, 230-1 (No. 19412) (English) 1980. RD 194012 19800610. CODEN: RSDSBB. ISSN: 0374-4353. PRIORITY: RD 1980-194012 19800610.

GI



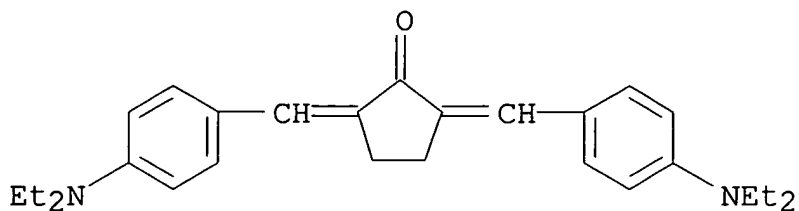
AB .alpha.,.alpha.'-Bis(dialkylaminobenzylidene)ketones (I; R = C1-6 alkyl; n = 0-5) having a high extinction coeff. at 488 nm, good sol. in org. solvents, and compatibility with common binders are useful in optical recording elements. Thus, a disk support carrying a vapor-deposited Al reflecting layer was coated with a compn. contg. cellulose nitrate 1, 2,5-bis(4-diethylaminobenzylidene)cyclopentanone 1, and cyclohexanone 60 g. After drying, tracks were recorded on the disk by using an Ar-ion laser (488 nm) focused with a numerical aperture NAg = 0.525 while the disk was rotating at 1800 rpm. The recorded tracks were then read back with a similarly focused He-Ne laser-light beam (633 nm) having a power of .apprx.1 mW on the disk surface. For an incident write power of .apprx.10 mW, the signal-to-noise ratio was .apprx.50.

IT 38394-53-5

(laser optical recording materials contg.)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

Section cross-reference(s): 25, 40

IT **38394-53-5**

(laser optical recording materials contg.)

=> d 132 1-12 cbib abs hitstr hitind

L32 ANSWER 1 OF 12 HCA COPYRIGHT 2004 ACS on STN

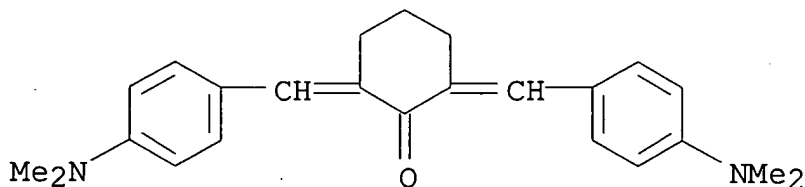
133:357311 Holographic recording material having laminated polymer on hologram recording layer. Ito, Hiromitsu; Oe, Yasushi (Toppan Printing Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000310933 A2 20001107, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1999-118813 19990426.

AB The holog. recording material has a laminated structure of a hologram recording layer on a substrate and a water or org. sol. polymer layer on a support, wherein the polymer layer contact with the hologram recording layer as a cover film. The hologram layer contains a cationically polymerizable heat-curable resin having a ethylene oxide group, a radically polymerizable ethylenic compd., a photopolymn. initiator, and a dye **sensitizer**. The holog. recording material shows the high photosensitivity, diffraction efficiency, and **image** resolu. and the good chem. stability.

IT **18977-38-3**, Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-  
(**sensitizer** in holog. recording material)

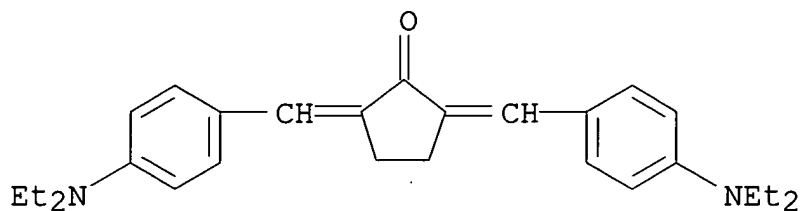
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

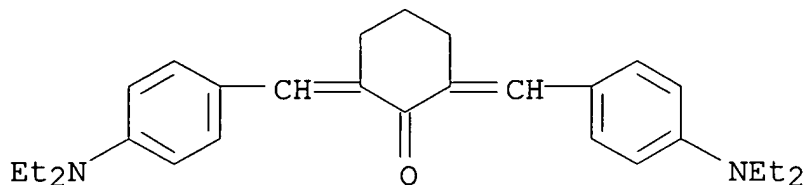




- IC ICM G03H001-02  
ICS G02B005-32
- CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35
- IT 63226-13-1, 3,3'-Carbonylbis(7-diethylaminocoumarin)  
(dye **sensitizer** in holog. recording material)
- IT 18977-38-3, Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- 25962-05-4 38215-36-0,  
3-(2-Benzothiazolyl-7-(diethylamino))coumarin 161291-22-1,  
2,5-Bis((4-(diethylamino)phenyl)methylene)cyclopentanone  
(**sensitizer** in holog. recording material)
- L32 ANSWER 2 OF 12 HCA COPYRIGHT 2004 ACS on STN  
125:224761 Photosensitive recording materials and media for transparent holograms and manufacture of transparent weather-resistant holograms using the same. Ito, Hiromitsu; Ooe, Yasushi (Toppan Printing Co Ltd, Japan). Jpn. Kokai Tokkyo Koho JP 08190334 A2 19960723 Heisei, 11 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-2802 19950111.
- AB The title materials providing holograms with high resoln., high diffraction efficiency, and excellent wavelength reproducibility comprise (A) sol. resins that are solid at ambient pressure and temp., (B) monomers that are liq. at ambient temp. and pressure, have b.p. .gtoreq.100.degree. at ambient pressure, contain .gtoreq.1 radical-polymerizable ethylenically unsatd. bonds, and have polymer refractive index different from that of the component A, (C) photoinitiators activating radical polymn. under radiation, (D) amino group-contg. **sensitizing** dyes for the component C, and (E) compds. producing sulfonic acid derivs. by light, heat, or other external actions. Epikote 1007 100, triethylene glycol diacrylate 50, diphenyliodonium hexafluorophosphate 5, 3,3'-carbonylbis(7-diethylamino)coumarin 1, 2-nitrobenzyl tosylate 5, and MEK 200 parts gave a photosensitive soln. which was coated 15 .mu.m-thick on a glass plate, topped with a poly(vinyl alc.) film, and used for forming a laser hologram **image** with heat treatment at 100.degree. for 30 min and photodecompn. of the tosylate by Hg lamp irradsn. to obtain a hologram with visible light transmission 90%, diffraction efficiency 95%, and refractive index modulation 0.0204.
- IT 38394-53-5 80601-02-1  
(photosensitive recording materials and media for transparent holograms and manuf. of transparent weather-resistant holograms using the same)
- RN 38394-53-5 HCA
- CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 80601-02-1 HCA  
 CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



IC ICM G03H001-02  
 ICS C08J003-00; G03F007-004; G03F007-029  
 CC 42-12 (Coatings, Inks, and Related Products)  
 Section cross-reference(s): 74  
 IT 3568-36-3 38215-36-0, 3-(2-Benzothiazolyl)-7-diethylaminocoumarin  
**38394-53-5** 58109-40-3, Diphenyliodonium  
 hexafluorophosphate 63226-13-1, 3,3'-Carbonylbis(7-  
 diethylamino)coumarin **80601-02-1**  
 (photosensitive recording materials and media for transparent  
 holograms and manuf. of transparent weather-resistant holograms  
 using the same)

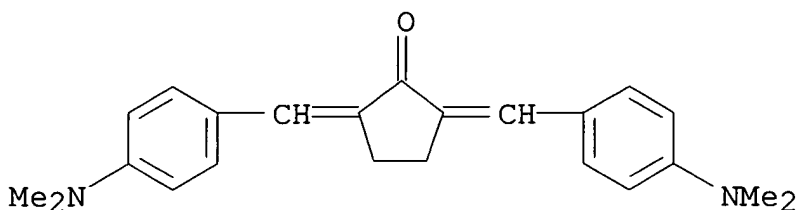
L32 ANSWER 3 OF 12 HCA COPYRIGHT 2004 ACS on STN  
 122:147301 Distinguishing markable photoresist material. Grossa, Mario  
 (Du Pont de Nemours (Deutschland) GmbH, Germany). Ger. Offen. DE  
 4240141 A1 19940601, 6 pp. (German). CODEN: GWXXBX. APPLICATION:  
 DE 1992-4240141 19921128.

AB The title material comprises: (1) a polymer binder; (2) an  
 ethylenically unsatd. addn. polymerizable compd.; (3) a leuco dye;  
 (4) a UV light-absorbing free radical-forming hexaaryl  
 bisimidazole-type initiator; (5) a spectral **sensitizer** dye  
 for visible or IR region; and (6) an another free radical-forming  
 initiator of the type arom. carbonyl compd. where the carbonyl  
 compd. absorbs only in the UV region and the spectra  
**sensitizer** selectively **sensitizes** the  
 bisimidazole-type initiator. The compn. produces high d.  
**images.**

IT 19226-99-4

(carbonyl compd. as photopolymn. initiator)

RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

IC ICM G03F007-032

ICS G03F007-20; C08F002-50

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

IT 19226-99-4 71868-10-5 80867-06-7

(carbonyl compd. as photopolymn. initiator)

L32 ANSWER 4 OF 12 HCA COPYRIGHT 2004 ACS on STN

117:160936 Photopolymerizable composition containing **sensitizer**  
mixture. Kuchta, August D. (du Pont de Nemours, E. I., and Co.,  
USA). U.S. US 5112721 A 19920512, 11 pp. Cont. of U.S. Ser. No.  
471,307, abandoned. (English). CODEN: USXXAM. APPLICATION: US  
1991-732721 19910719. PRIORITY: US 1990-471307 19900129.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

AB A photopolymerizable compn. useful as a photoresist or a  
**photoimaging** compn. with improved speed and resolu.  
comprises: (1) .gtoreq.1 ethylenically unsatd. monomer capable of  
free radical addn. polymn.; (2) .gtoreq.1 polymeric binder; and (3)  
a photoinitiating compn. comprising: (a) a hexaarylbisimidazole; (b)  
a chain transfer agent; (c) a **sensitizer** having the  
structure I [R1, R2 = H, (substituted) C1-6 alkyl, (substituted)  
C1-6 alkoxy, or R1 and R2 together may be OCH2O or form a 5- or  
6-membered ring; R3, R4 = H or Me; R5 = H; R7 = C1-6 alkyl or R5 +  
R7 together may be (CH2)2 or (CH2)3; R6 = H; R8 = C1-6 alkyl or R6 +  
R8 together may be (CH2)2 or (CH2)3 provided that R5 + R7 and R6 +  
R8 can not be (CH2)2 at the same time]; and (d) a co-  
**sensitizer** having its wavelength of max. absorption at  
longer wavelength than that of the **sensitizer** described

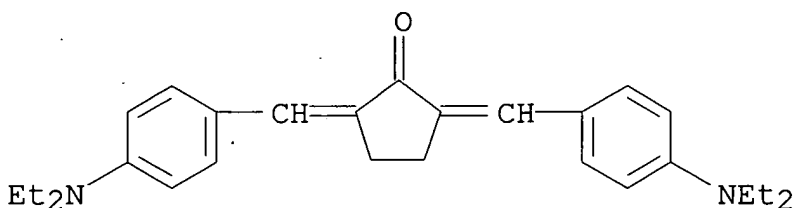
above and selected from the group of compds. represented by the formulas II, III, and IV [R9-12 = H, C1-4 alkyl, or C1-4 alkoxy; m, n, p = 2 or 3; R13, R14 = H, methoxy, or C1-4 alkyl; R15-18 = C1-4 alkyl; q = 2 or 3; R19, R20 = C1-6 alkyl; (substituted) Ph; R21-26 = C1-6 alkyl, C1-6 alkoxy, Cl, or (substituted) Ph; R21 + R22, R22 + R23, R24 + R25, or R25 + R26 together may form an aliph. or arom. ring or R27 + R28 together are CH<sub>2</sub>R<sub>29</sub>CHR<sub>30</sub> or CH<sub>2</sub>CHR<sub>31</sub>CH<sub>2</sub> where R<sub>29</sub>, R<sub>30</sub> = H or R<sub>29</sub> + R<sub>30</sub> together may form an arom. ring; R<sub>31</sub> = H or C1-6 alkyl; X, Y = O, S, or CR<sub>32</sub>R<sub>33</sub> where R<sub>32</sub>, R<sub>33</sub> = C1-4 alkyl].

IT 38394-53-5

(photoinitiating compns. contg., as **sensitizer** for photopolymerizable compns. for **image** and resist pattern formation)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM G03F007-031

NCL 430281000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photopolymerizable compn dye **sensitizer** mixt; photoresist  
photopolymerizable dye **sensitizer** mixt;  
**photoimaging** compn photopolymerizable dye **sensitizer**

IT Resists

(photo-, photopolymerizable, photoinitiating compns. contg. cyanine dye **sensitizers** and co-**sensitizers** for)

IT 27713-85-5 38394-53-5 53115-04-1 80867-05-6

125594-50-5 129357-57-9

(photoinitiating compns. contg., as **sensitizer** for photopolymerizable compns. for **image** and resist pattern formation)

IT 119-61-9, Benzophenone, uses 1707-68-2 15625-89-5 25133-97-5,  
Ethyl acrylate-methacrylic acid-methyl methacrylate copolymer  
25322-68-3, Polyethylene oxide 28961-43-5 33985-71-6  
34122-40-2 143480-95-9

(photopolymerizable compns. contg. cyanine dye **sensitizers** and co-**sensitizers** and, for **image** and resist pattern formation)

L32 ANSWER 5 OF 12 HCA COPYRIGHT 2004 ACS on STN

114:153838 Improved photopolymers for holographic recording. I. **Imaging** properties. Monroe, Bruce M.; Smothers, William K.; Keys, Dalen E.; Krebs, Robert R.; Mickish, Daniel J.; Harrington, Albert F.; Schicker, Scott R.; Armstrong, Mark K.; Chan, Dominic M. T.; Weathers, Carolyn I. (Imaging Syst. Dep., E. I. du Pont de Nemours and Co., Inc., Wilmington, DE, 19880-0352, USA). Journal of Imaging Science, 35(1), 19-25 (English) 1991. CODEN: JISCEJ. ISSN: 8750-9237.

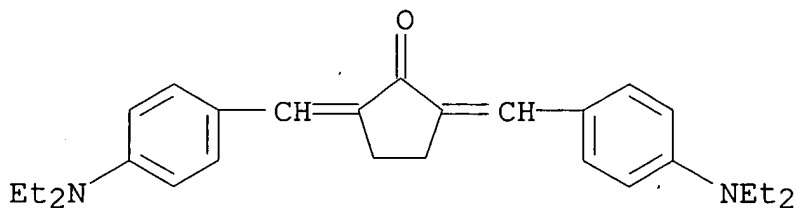
AB Improved photopolymers for holog. recording are described along with a brief review of the basic technol. Holog. diffraction gratings with high refractive index modulation are prepd. from photopolymers contg. a liq. arom. monomer, such as 2-phenoxyethyl acrylate, and an aliph. binder, such as cellulose acetate butyrate. Higher refractive index modulations are attained when a second, solid, arom. monomer that contains heavy atoms or polycyclic arom. group is used in combination with the liq. arom. monomer. Holog. mirrors with high refractive index modulations are produced from materials that contain poly(vinyl acetate) or poly(vinyl butyral) binder. The refractive index modulations of mirrors formed in the poly(vinyl acetate)- and poly(vinyl butyral)-contg. materials can be enhanced by treatment with an org. solvent or by thermal treatment.

IT 38394-53-5

(photopolymn. mixt. contg. **sensitizer** of, for holog.)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 35, 36

ST photopolymer holog recording **imaging**; mirror holog photopolymer

IT 38394-53-5

(photopolymn. mixt. contg. **sensitizer** of, for holog.)

L32 ANSWER 6 OF 12 HCA COPYRIGHT 2004 ACS on STN

105:235830 Photosensitive resin compositions. Suga, Nobuhiko; Ikeda, Akihiko; Ai, Hideo (Asahi Chemical Industry Co., Ltd., Japan). Jpn.

Kokai Tokkyo Koho JP 61118423 A2 19860605 Showa, 14 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1984-238545 19841114.

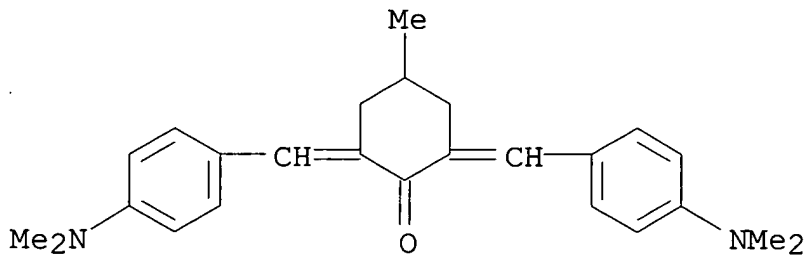
AB The claimed photosensitive resin compn. contains a polymer with structural repeating units of the formula  $Z(\text{CO}_2\text{R})_n\text{Z}_1\text{Z}_2(\text{R}_1)_m\text{Z}_1$  ( $Z = 2 + n$  valent carbocyclic or heterocyclic moiety;  $\text{Z}_2 = 2 + m$  valent carbocyclic or heterocyclic moiety;  $\text{Z}_1 = \text{CONH}$ ,  $\text{NHCONH}$ ,  $\text{O}_2\text{CNH}$ ;  $\text{R} =$  a moiety contg. a C:C bond;  $\text{R}_1 =$  group which reacts with  $\text{CO}_2\text{R}$  group to form ring;  $n = 1, 2$ ;  $m = 0, 1, 2$ ; and the  $\text{CO}_2\text{R}$  group is at an ortho- or para-position with respect to the  $\text{Z}_1$  group), an oxime compd. of the formula  $\text{R}_2\text{C}_6\text{H}_4\text{COCR}_3\text{:NO}_2\text{CR}_4$  ( $\text{R}_2 = \text{H}$ , C1-6 alkyl, C1-6 alkoxy, C6-10 aryl), and a **sensitizer** with an absorption max. wavelength of 300-500 nm. The photosensitive resin compn. is esp. useful in forming heat-resistant polyimide patterns. Thus, pyromellitic dianhydride was esterified with 2-hydroxyethyl methacrylate and the ester was copolymd. with 4,4'-diaminodiphenyl ether. The copolymer, 1-phenyl-1,2-propanedione-2-(O-benzoyl)oxime and Michler's ketone were then mixed to give a photosensitive resin compn. having good sensitivity.

IT 65446-46-0 65446-47-1

(**sensitizer**, for photosensitive compn. contg.  
hydroxyethyl methacrylate modified polyamic acid and oxime  
compd.)

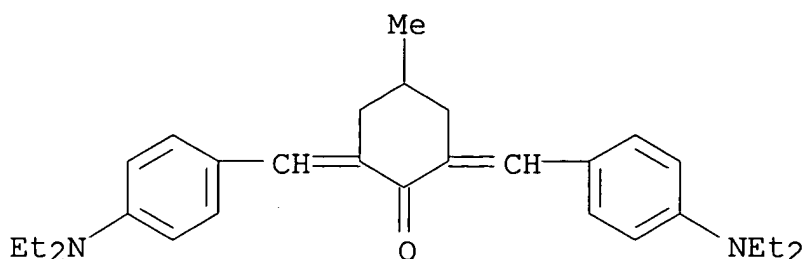
RN 65446-46-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl-  
(9CI) (CA INDEX NAME)



RN 65446-47-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-methyl-  
(9CI) (CA INDEX NAME)



- IC ICM C08G073-06  
ICS C08F002-48; C08F299-00; G03C001-71
- CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 35, 76
- IT **Photoimaging** compositions and processes  
(hydroxyethyl methacrylate-modified polyamic acid-oxime-  
**sensitizer** mixts. as)
- IT Resists  
(photo-, hydroxyethyl methacrylate-modified polyamic acid-oxime-  
**sensitizer** mixts. as)
- IT 89-32-7D, ester with hydroxyethyl methacrylate, polymer with  
diaminodiphenyl ether  
(photosensitive resin compn. contg. oxime compd. and  
**sensitizer** and)
- IT 6624-55-1 17292-57-8 65894-76-0 71066-97-2 105600-65-5  
105600-66-6  
(photosensitive resin compns. contg. hydroxyethyl  
methacrylate-modified polyamic acid and **sensitizer** and)
- IT 101-80-4D, polymers with hydroxyethyl methacrylate-arom.  
tetracarboxylic dianhydride esters 868-77-9D, esters with arom.  
tetracarboxylic dianhydrides, polymers with diaminodiphenyl ether  
(photosensitive resin compns. contg. oxime compd. and  
**sensitizer** and)
- IT 90-93-7 90-94-8 1161-22-4 1628-58-6 5706-20-7 6673-14-9  
**65446-46-0 65446-47-1** 105600-67-7  
(**sensitizer**, for photosensitive compn. contg.  
hydroxyethyl methacrylate modified polyamic acid and oxime  
compd.)
- L32 ANSWER 7 OF 12 HCA COPYRIGHT 2004 ACS on STN  
102:176527 Photographic recording using photohardenable materials.  
Grossa, Mario (Du Pont de Nemours (Deutschland) G.m.b.H., Fed. Rep.  
Ger.). Ger. DE 3335309 C1 19840816, 8 pp. (German). CODEN:  
GWXXAW. APPLICATION: DE 1983-3335309 19830929.
- AB A process for the **photoimaging** of selective regions of an  
original as equi-d. or contour **images** involves imagewise

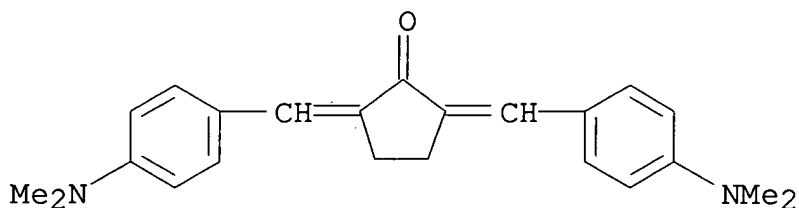
exposing a photohardenable material to light of wavelength A which desensitizes the material to exposure by light of wavelength B, and then photohardening the material by exposure to light of wavelength B. The **image** formation proceeds through .gtoreq.2 imagewise exposures with light of different wavelengths and addnl. nonimagewise, photohardening final exposure. Thus, a PET support was overcoated with a CH<sub>2</sub>Cl<sub>2</sub> soln. contg. poly(vinyl acetate) 12.6, poly(Me methacrylate) 31.1, trimethylolpropane triacrylate 35.6, oxyethylated trimethylolpropane triacrylate 8.0, oxyethylated hexadecanol 8.0, 2-(o-chlorophenyl)-3,4-diphenylimidazole 1.6, 2-mercaptobenzoxazole 08, an inhibitor precursor 2.0, and a **sensitizer** 0.3% and then laminated at 100.degree. to a white paper. The laminate was then exposed through a halftone wedge (wedge const. of .sqrt.2) for 10 s to light of .lambda. = 400-700 nm and 90 s to light of .lambda. = 300-400 nm followed by a nonimage exposure for 15 s to light of .lambda. = 400-700 nm. After the exposure the polyester layer was stripped off, and the **image** toned. The width of the equi-d. was 1.7.

IT 19226-99-4

(**photoimaging** compns. contg., for contour or equidensity **images**)

RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03F007-00; G03F007-20

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST photopolymer **photoimaging** contour equidensity **image**

IT **Photoimaging** compositions and processes  
(photopolymer, for contour or equidensity **images**)

IT 77-99-6D, ethoxylated, triacrylate 79-10-7D, ester with  
ethoxylated trimethylolpropane 109-16-0 109-17-1 603-48-5  
1707-68-2 2382-96-9 3290-92-4 9003-20-7 9004-95-9  
9011-14-7 19226-99-4 20357-25-9 21829-25-4  
25135-39-1 56646-84-5 67016-70-0 80867-06-7 96024-63-4  
(**photoimaging** compns. contg., for contour or  
equidensity **images**)



L32 ANSWER 8 OF 12 HCA COPYRIGHT 2004 ACS on STN

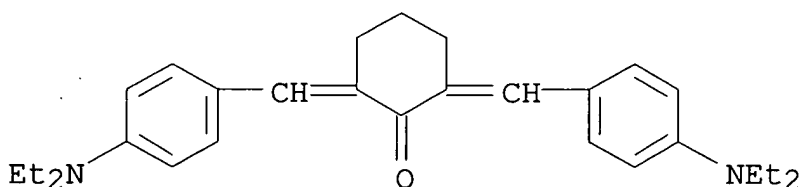
102:70278 Radiation sensitive plates. Wade, John Robert; Potts, Rodney Martin; Pratt, Michael John (Vickers PLC, UK). Eur. Pat. Appl. EP 125140 A2 19841114, 49 pp. DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP 1984-303111 19840509. PRIORITY: GB 1983-12721 19830509; GB 1983-12722 19830509.

AB A photosensitive compn. for lithog. plate fabrication contains an ethylenically unsatd. polymerizable compd., a perester photoinitiator and optionally an optical **sensitizer**. Thus, a grained and anodized Al plate was coated with a compn. contg. dimethacrylate ester of diglycidyl ether of bisphenol A 3, vinyl acetate-crotonic acid polymer 1, 4-(1'-methoxybenzoyl)-tert-Bu perbenzoate 0.15, Et Michler's Ketone 0.15 wt. part in EtCOMe at a coating wt. 1 g/m<sup>2</sup>, dried, overcoated with a poly(vinyl alc.), imagewise exposed, and developed with an aq. soln. contg. Na propanoate, Na benzoate and a surfactant to give a lithog. plate.

IT **80601-02-1**  
(photopolymeric **imaging** compn. for lithog. plates  
fabrication contg., perester photoinitiators for)

RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03C001-68; G03F007-10; G03C001-94; C07C179-18; C07C179-20;  
C07C179-22; C08L033-08; C08L033-10; C08F002-50

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

IT Lithographic plates  
(photopolymeric **imaging** compn. for prepn. of, contg.  
perester photoinitiator)

IT	71616-77-8	71616-78-9	71616-79-0	89836-56-6	94610-26-1
	94610-27-2	94610-28-3	94610-29-4	94610-30-7	94610-31-8
	94610-32-9	94610-33-0	94610-34-1	94610-35-2	94610-36-3
	94610-37-4	94610-38-5	94610-39-6	94610-40-9	94610-41-0
	94610-42-1	94610-43-2	94610-44-3	94610-45-4	94610-46-5
	94610-47-6	94610-48-7	94610-49-8	94610-50-1	94610-51-2
	94610-52-3	94610-53-4	94610-54-5	94610-55-6	94610-56-7
	94610-57-8	94610-58-9	94610-59-0	94610-60-3	94610-61-4
	94610-62-5	94610-63-6	94610-64-7	94610-65-8	94610-66-9

94610-67-0	94610-68-1	94610-69-2	94610-70-5	94610-71-6
94610-72-7	94610-73-8	94610-74-9	94630-61-2	94630-62-3
94630-63-4	94630-64-5	94630-65-6	94630-66-7	94630-67-8
94630-68-9	94630-69-0	94630-70-3	94630-71-4	94630-72-5
94630-73-6	94630-74-7	94630-75-8	94630-76-9	94630-77-0
94630-78-1	94630-79-2	94630-80-5	94630-81-6	94630-82-7
94630-83-8	94630-84-9	94630-85-0	94630-86-1	94630-87-2
94630-88-3	94630-89-4	94630-90-7	94630-91-8	94630-92-9
94630-93-0	94630-94-1	94630-95-2	94630-96-3	94630-97-4
94630-98-5	94630-99-6	94654-03-2		

(photopolymeric **imaging** compn. for lithog. plates  
fabrication contg.)

IT 90-93-7 91-44-1 905-96-4 1042-84-8 1054-00-8 1565-94-2  
14934-37-3 25609-89-6 28705-46-6 31897-47-9 63226-13-1  
79586-49-5 **80601-02-1** 84170-75-2

(photopolymeric **imaging** compn. for lithog. plates  
fabrication contg., perester photoinitiators for)

L32 ANSWER 9 OF 12 HCA COPYRIGHT 2004 ACS on STN

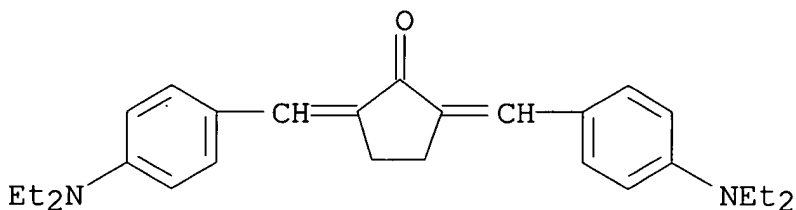
97:82722 Composition for priming photopolymerization containing  
N-oxy-N-heterocyclic compounds as activators. Specht, Donald Paul;  
Farid, Samir Yacoub (Eastman Kodak Co., USA). Fr. Demande FR  
2489982 A1 19820312, 22 pp. (French). CODEN: FRXXBL. APPLICATION:  
FR 1981-17068 19810909. PRIORITY: US 1980-185854 19800910.

AB For the priming of the addn. photopolymn. of acrylic monomers a  
combination of a **photosensitizer** with an amino group, such  
as an amino-3-oxocoumarin deriv., 0.005-0.015 mmol/g solids, with 10  
times as much of an activator, 0.05-0.2 mmol, such as an  
N-alkoxypyridinium salt or N-benzoyloxypthalimide, is used. In the  
presence of the photoexcited **sensitizer** the activator  
liberates free radicals. The polymerizable compd. forms 5-100% of  
the compd.-binder mixt., used preferably as a 20-120.mu.  
single-phase layer on a film, paper, metal, or ceramic support.  
Thus, a soln. was prepd. contg. pentaerythritol tetraacrylate 45,  
pentaerythritol tetramethacrylate 60, Acryloid B-48-N (binder) 120,  
Acryloid A-111 (binder) 120, di-Bu phthalate (plasticizer) 50.4,  
and tert-butyl-4-hydroxy-5-methylphenyl sulfide (stabilizer) 1.05 g  
in CH<sub>2</sub>Cl<sub>2</sub> 535.2 g. To 13 mL of this soln. 0.08 mmol of  
3-benzoyl-7-diethylaminocoumarin was added together with 0.8 mmol of  
N-phenylglycine(I) and of N-methoxy-4-phenylpyridinium  
tetrafluoroborate(II). The solns. were coated as 300.mu. layers  
(wet) on a Cu support at 18.degree. and dried stepwise. A  
sensitometric exposure and development with MeCCl<sub>3</sub> revealed a  
relative sensitivity of 2.8 for I and 2.0 for II.

IT **38394-53-5**

(**photosensitizer**, in combination with activator for  
addn. photopolymn. **imaging** of acrylic monomer-contg.  
layers)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

IC G03C001-68

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)ST photopolymn **photosensitizer** activator **imaging**IT **Photoimaging** compositions and processes  
(photopolymerizable, **photosensitizer**-activator  
combination use in acrylic monomer type)IT 103-01-5 940-64-7 1912-48-7 10287-53-3 58585-84-5  
82649-25-0 82649-26-1 82649-27-2 82649-28-3(activator, in combination with **photosensitizer** for  
addn. photopolymn. **imaging** of acrylic monomer-contg.  
layer)IT 90-94-8 1030-27-9 35976-48-8 **38394-53-5** 54850-57-6  
63149-07-5 63226-13-1 65711-23-1 70807-28-2 77016-73-0  
77016-74-1 77016-75-2 77016-78-5 77819-80-8 82649-20-5  
82649-21-6 82649-22-7 82649-24-9(b) **photosensitizer**, in combination with activator for  
addn. photopolymn. **imaging** of acrylic monomer-contg.  
layers)

L32 ANSWER 10 OF 12 HCA COPYRIGHT 2004 ACS on STN

86:24460 Photopolymerizable compositions containing cyclic  
cis-.alpha.-dicarbonyl compounds and selected **sensitizers**.  
Chang, Catherine T. L. (du Pont de Nemours, E. I., and Co., USA).  
U. S. Reissue US 28789 19760427, 9 pp. Reissue of U.S. 3,756,827.  
(English). CODEN: UUXA2. APPLICATION: US 1975-608673 19750828.AB A photopolymerizable compn. having a wide range of spectral  
sensitivity and useful in prepg. lithog. plates, photoresists, color  
proofs and thermal transfer-type copies is comprised of an  
ethylenically unsatd. monomer and a photoinitiating compn.  
consisting of a cyclic cis-.alpha.-dicarbonyl compd. and a  
**photosensitizer**. Thus, a soln. prepd. from cellulose  
acetate (acetyl 40%) 2.7, cellulose acetate butyrate (butyrate 17%)  
4.2, trimethylolpropane 13.5, 2,3-bornanedione 0.047, Michler's  
ketone 0.047 and Me2CO 116 g was coated on a 0.001 inch thick  
poly(ethylene terephthalate) film to a wet thickness of 0.002 inch,

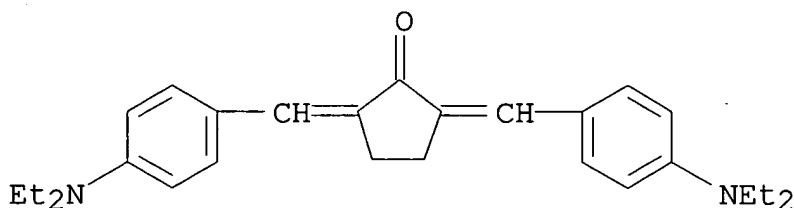
dried, and laminated with a poly(ethylene terephthalate) sheet. The composite film was exposed through an Eastman Kodak M-type step tablet No.5 with a 1000-W W lamp at 44 inches. After removing the cover sheet the exposed photopolymer layer was dusted with Jungle Black to give a pos. **image**.

IT 38394-53-5

(**photosensitizer**, for photopolymerizable compn. contg. acrylate monomer and cyclic dicarbonyl compd. for photog. **image** formation and lithog. plate prepn.)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03C001-94

NCL 096086000P

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT Photography, color

(polymer **image** formation in, photopolymerizable compns. contg. acrylate monomer, cyclic dicarbonyl compd. and **photosensitizer** for)

IT Resists

(photo-, photopolymerizable compns. contg. acrylate monomer, cyclic dicarbonyl compd. and **photosensitizer** for)

IT 765-70-8

(photopolymerizable compn. contg. acrylate monomer **photosensitizer** and, for photog. **image** formation and lithog. plate prepn.)

IT 91-56-5P 10373-78-1P 17471-49-7P

(photopolymerizable compn. contg. acrylate monomer, **photosensitizer** and, for photog. **image** formation and lithog. plate prepn.)

IT 120-89-8P 14744-18-4P 52560-24-4P

(photopolymerizable compn. contg. acrylate monomer, **photosensitizer** and, for photog. **image** formation and lithog. plate prepn.)

IT 36597-31-6P

(photopolymerizable compn. contg. acrylate monomer,, **photosensitizer** and, for photog. **image** formation and lithog. plate prepn.)

- IT 109-16-0P 15625-89-5P  
(photopolymerizable compn. contg. cyclic dicarbonyl compd.,  
**photosensitizer** and, for photog.**image** formation  
and lithog. plate prepn.)
- IT 4074-88-8P  
(photopolymerizable compn. contg. cyclic dicarbonyl compd.,  
**photosensitizer** and, for photog.**image** formation  
and lithog.plate prepn.)
- IT 65-61-2 90-93-7 90-94-8 91-44-1 92-99-9 102-71-6, uses and  
miscellaneous 103-01-5 126-81-8 603-35-0, uses and  
miscellaneous 1197-19-9 1628-58-6 1749-04-8 2124-31-4  
2465-27-2 19132-98-0 33458-29-6 35128-95-1 **38394-53-5**  
52439-99-3 61413-25-0 61445-93-0  
(**photosensitizer**, for photopolymerizable compn. contg.  
acrylate monomer and cyclic dicarbonyl compd. for photog.  
**image** formation and lithog. plate prepn.)
- IT 120-21-8  
(**photosensitizer**, for photopolymerizable compn. contg.  
acrylate monomer and cyclic dicarbonyl compd. for photog.  
**image** formation and lithog.plate prepn.)
- IT 91-44-1  
(**photosensitizer**, for photopolymerizable compn. contg.  
acrylate monomer and cyclic dicarbonyl compd. for photog.  
**image** formation and lithog. plate prepn.)

L32 ANSWER 11 OF 12 HCA COPYRIGHT 2004 ACS on STN

80:114843 Photopolymerizable compositions containing cyclic  
cis-.alpha.-dicarbonyl compounds and selected **sensitizers**.  
Chang, Catherine T. (du Pont de Nemours, E. I., and Co.). U.S. US  
3756827 19730904, 7 pp. (English). CODEN: USXXAM. APPLICATION: US  
1972-220694 19720125.

AB Photopolymerizable compns. of high photospeed consists of an  
ethylenically unsatd. monomer capable of photoinitiated addn.  
polymn. and photoinitiator combination of a cyclic  
cis-.alpha.-dicarbonyl compd., such as 2,3-norbornadione (I),  
2,2,5,5-tetramethyltetrahydro-3,4-furandione, indole-2,3-dione, and  
a radiation-absorbing compd. having a max. absorption at <520 nm  
capable of **sensitizing** the polymg. action of the above  
dicarbonyl compd., such as Michler's ketone (II),  
3,3'-diethylthiacyanine p-toluenesulfonate, 4-  
(dimethylamino)benzoquinone, Acridine Orange, and optionally a  
free-radical producing H or electron donor compd. and a polymeric  
binder. Thus, a soln. contg. cellulose acetate 2.7, cellulose  
acetate butyrate 4.2, trimethylolpropane triacrylate 13.5, Me2CO  
116, I 0.047, and II 0.047 g was coated on a poly(ethylene  
terephthalate) (III) support at 0.002 in. wet thickness, dried,  
laminated with a III cover sheet, exposed using a 1000-W W-lamp at  
44 in. through an Eastman Kodak M-type no. 5 step tablet, and

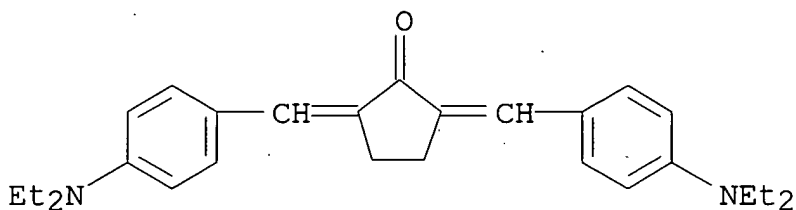
developed by dusting with Jungle Black to give an equiv. exposure time of 2 vs. .apprx.400 for a II-free control.

IT 38394-53-5 52560-25-5

(**photosensitizer**, for trimethylolpropane triacrylate photopolymerizable compns.)

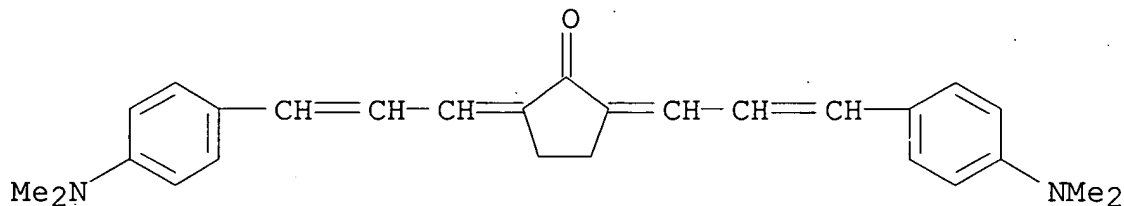
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 52560-25-5 HCA

CN Cyclopentanone, 2,5-bis[3-[4-(dimethylamino)phenyl]-2-propenylidene]- (9CI) (CA INDEX NAME)



IC G03C

NCL 096086000P

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST dicarbonyl **photosensitizer** photopolymer imaging

IT 91-56-5 120-89-8 765-70-8 10373-78-1 14744-18-4 17471-49-7  
36597-31-6 52560-24-4

(photopolymerizable compns. contg. trimethylolpropane triacrylate, **sensitizer**, and)

IT 126-81-8

(**photosensitizer**, for triethylene glycol dimethacrylate photopolymerizable compns.)

IT 65-61-2 90-93-7 90-94-8 91-44-1 92-99-9 100-10-7  
102-71-6, uses and miscellaneous 103-01-5 530-44-9 603-35-0  
1197-19-9 1628-58-6 2124-31-4 2465-27-2 6673-14-9  
17087-90-0 19132-98-0 33458-29-6 35128-95-1 38394-53-5  
52439-99-3 52560-25-5

(**photosensitizer**, for trimethylolpropane triacrylate photopolymerizable compns.)

L32 ANSWER 12 OF 12 HCA COPYRIGHT 2004 ACS on STN

77:41367 Light-sensitive material for carrying out a photographic dry-copying process. Kampfer, Helmut; Oehlschlaeger, Hans; Von Koenig, Anita (Agfa-Gevaert A.-G.). Ger. Offen. DE 2042663 19720302, 44 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1970-2042663 19700828.

GI For diagram(s), see printed CA Issue.

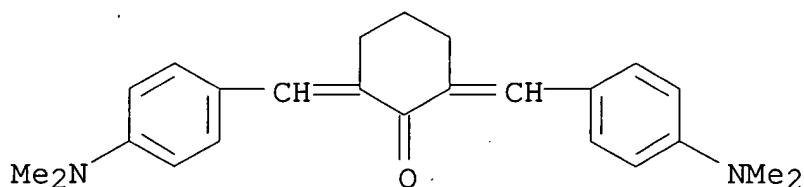
AB In the dry photocopy process described in Ger. 2,042,054 where an exposure to light renders a color former non-volatile and the unexposed color former combines at 80-200.degree. with a coreactant in the receptor sheet to form a dark pos. copy, various types of styryl dyes are used as a **sensitizer**. Thus, the combination of a parchment paper support carrying a coating of Et cellulose 2.5 g, 1-phenyl-3-methylpyrazolin-5-one 100 mg, and I 30 mg with a receptor sheet of barytacoated paper with a coating of poly(oxyethylene)-hydroxyethyl cellulose copolymer 1 g, 4-dimethylaminobenzenediazonium tetrafluoroborate 5 g, and saponin 1 g yielded red copies on a gray background.

IT 18977-38-3

(**photosensitizer**, for light-sensitive compns. contg. volatile color formers for heat-transferable **images** for dry copying process)

RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03C

CC 74-3 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST diazo dry photocopying; copying photo diazo dry; styryl dye **sensitizer** photocopying

IT Photoduplication

(dry-processing, light-sensitive compns. contg. volatile color formers and styryl dye **sensitizers** for heat-transferable **images** for)

IT 84-85-5 92-43-3 3588-80-5 6112-47-6 6640-50-2 17900-68-4  
36210-80-7

(light-sensitive compns. contg. styryl dye **sensitizers** and, for heat-transferable **images** for dry copying

process)  
 IT 886-77-1 893-00-5 6673-14-9 18977-38-3 21889-13-4  
 23517-90-0 25671-91-4 25671-98-1 38307-78-7 38307-79-8  
 38307-80-1 38307-83-4 38307-84-5 38307-85-6 38307-86-7  
 38307-87-8 38307-89-0 38307-90-3 38307-91-4 38307-92-5  
 38307-94-7 38307-95-8 38307-96-9 38307-97-0 38307-98-1  
 38307-99-2 38308-00-8 38308-01-9 38308-02-0 38308-03-1  
 38308-04-2 38308-05-3 38308-06-4 38308-07-5 38330-22-2  
 38337-09-6 38337-10-9 38337-11-0

(**photosensitizer**, for light-sensitive compns. contg.  
 volatile color formers for heat-transferable **images** for  
 dry copying process)

=> d 137 1-16 cbib abs hitstr hitind

L37 ANSWER 1 OF 16 HCA COPYRIGHT 2004 ACS on STN  
 140:312174 Liquid crystal **compositions** with high order  
 parameter for guest-host-type liquid crystal displays. Kato,  
 Takashi; Takizawa, Hiroo; Akiba, Masaharu (Fuji Photo Film Co.,  
 Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2004107502 A2 20040408, 30  
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 2002-272634  
 20020919.

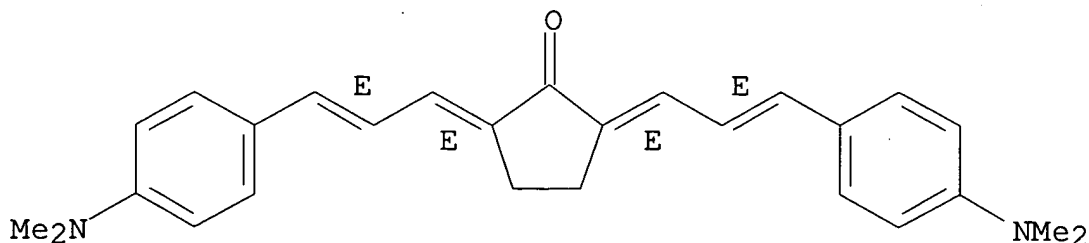
AB The compns. comprise liq. crystals and nonresonant two-photon  
 absorbing compds. as dichroic dyes. The liq. crystal displays  
 provide high-contrast **images**.

IT **677004-24-9**  
 (nonresonant two-photon absorbing compds.; liq. crystal compns.  
 contg. nonresonant two-photon absorbing compds. for high-contrast  
 guest-host-type liq. crystal displays)

RN 677004-24-9 HCA

CN Cyclopentanone, 2,5-bis[(2E)-3-[4-(dimethylamino)phenyl]-2-  
 propenylidene]-, (2E,5E)- (9CI) (CA INDEX NAME)

Double bond geometry as shown.



IC ICM C09K019-60

ICS C09B023-00; G02F001-13; G02F001-137

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and



## Other Reprographic Processes)

Section cross-reference(s): 41, 75

IT 677004-24-9 677004-26-1

(nonresonant two-photon absorbing compds.; liq. crystal compns.  
contg. nonresonant two-photon absorbing compds. for high-contrast  
guest-host-type liq. crystal displays)

L37 ANSWER 2 OF 16 HCA COPYRIGHT 2004 ACS on STN

133:303571 IR-laser sensitive **composition** for lithographic  
plate making by direct **imaging**. Nakamura, Ippei (Fuji  
Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 2000275828  
A2 20001006, 32 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
1999-82401 19990325.

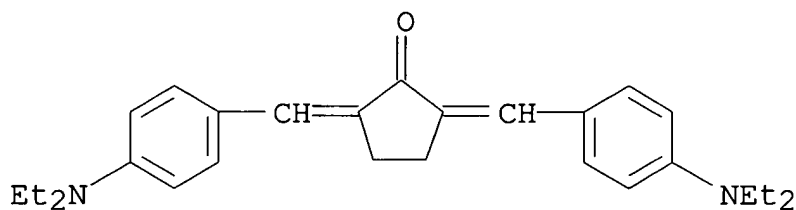
AB The invention relates to an IR-laser sensitive compn. has an IR  
absorbing material and a polymer insol. in water and sol. in an  
alkali soln., wherein the compn. shows the high sensitivity and the  
high development latitude.

IT 38394-53-5P, 2,5-Bis[4-(diethylamino)benzylidene]cyclopentan  
one 80601-02-1P 301193-31-7P

(IR absorbing agent in IR-laser sensitive compn.)

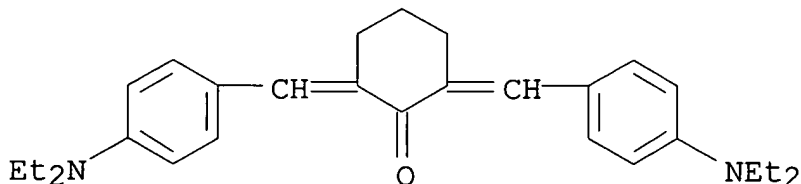
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



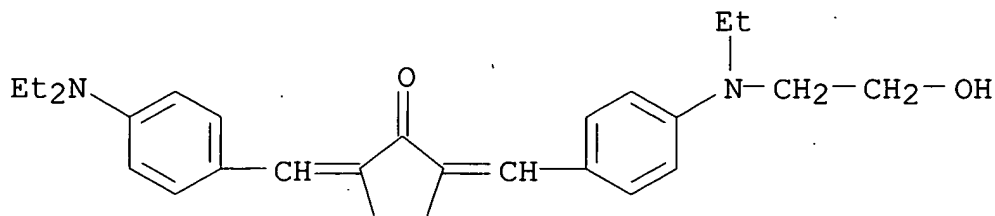
RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

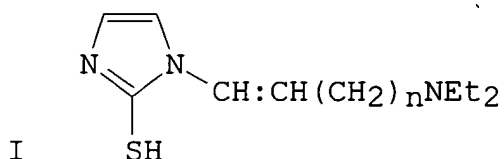
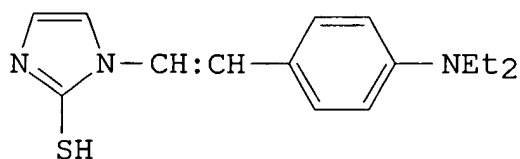


RN 301193-31-7 HCA

CN Cyclopentanone, 2-[[4-(diethylamino)phenyl]methylene]-5-[[4-[ethyl(2-  
hydroxyethyl)amino]phenyl]methylene]- (9CI) (CA INDEX NAME)



- IC ICM G03F007-004  
 ICS B41N001-14; C09B023-00; G03F007-00; G03F007-027; G03F007-20  
 CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 ST direct **imaging** lithog plate compn IR laser  
 IT Light-sensitive materials  
 Lithographic plates  
 (IR-laser sensitive compn. for direct-**imaging** lithog.  
 plate making)  
 IT 10025-87-3P, Phosphoryl chloride 22057-80-3P **38394-53-5P**  
 , 2,5-Bis[4-(diethylamino)benzylidene]cyclopentanone 38954-40-4P  
**80601-02-1P** 100609-71-0P 301193-29-3P  
**301193-31-7P**  
 (IR absorbing agent in IR-laser sensitive compn.)
- L37 ANSWER 3 OF 16 HCA COPYRIGHT 2004 ACS on STN  
 120:165955 Photopolymerizable **compositions** with high  
 sensitivity and broad development properties. Okamoto, Hiroaki  
 (Okamoto Kagaku Kogyo Kk, Japan). Jpn. Kokai Tokkyo Koho JP  
 05262811 A2 19931012 Heisei, 9 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1992-49185 19920306.
- GI



- AB Title compns. useful for photosensitive layers of lithog. plates,  
 photoresists, **image** formation, photocurable inks,  
 coatings, adhesives, etc., contain (A) radical polymerizable compds.  
 having .gtoreq.2 ethylenically unsatd. double bonds/mol., (B)  
 photopolymn. initiators, (C) org. polymer compds., and (D)  
 substituted ethylene compds. I or II (n = 1-6). Thus, a  
 photopolymerizable compn. contg. maleic anhydride-styrene copolymer

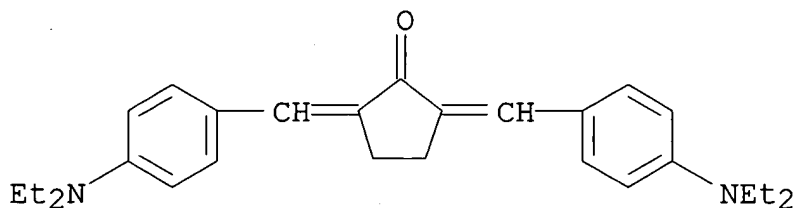
half esterification product (acid value 270; mol. wt. 1700) 5, pentaerythritol tetraacrylate 5, Ph3P 0.15, 2-mercaptobenzothiazole 0.20, 2,5-bis(4'-diethylaminobenzylidene)cyclopentanone 0.10, I 0.10, propylene glycol monomethyl ether 75, and ethylene glycol monomethyl ether 75 g was coated on a treated Al plate, further coated with 3% GL-05F [poly(vinyl alc.)], and dried to give a photosensitive layer showing good sensitivity in the neighborhood of 488 nm and good development properties.

IT 38394-53-5 80601-02-1

(photopolymn. initiators, photopolymerizable compns. contg.)

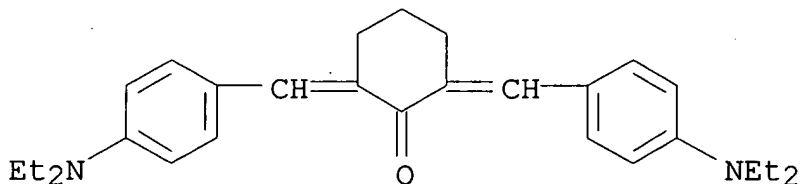
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM C08F002-50

ICS C08F026-06; G03F007-027; G03F007-028; G03F007-032

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 42, 74

IT 149-30-4, 2-Mercaptobenzothiazole 603-35-0, Triphenylphosphine,  
uses 18480-23-4, Allyltriphenylphosphonium chloride

38394-53-5 80601-02-1

(photopolymn. initiators, photopolymerizable compns. contg.)

L37 ANSWER 4 OF 16 HCA COPYRIGHT 2004 ACS on STN

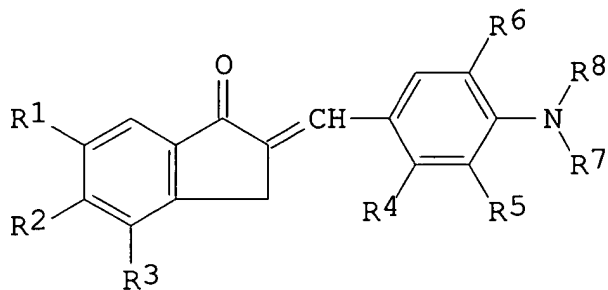
117:140750 Borate coinitiators for photopolymerizable

**compositions.** Weed, Gregory C. (E. I. Du Pont de Nemours & Co., USA). Eur. Pat. Appl. EP 483648 A2 19920506, 17 pp.

DESIGNATED STATES: R: DE, FR, GB, IT, NL. (English). CODEN:

EPXXDW. APPLICATION: EP 1991-118019 19911023. PRIORITY: US  
1990-603279 19901025.

GI



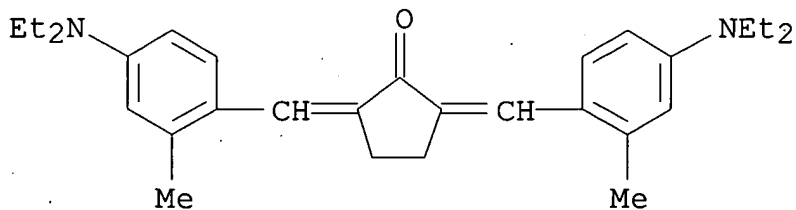
AB A photopolymerizable compn. is described comprising an ethylenically unsatd. monomer capable of free-radical polymn. and an initiator system contg. .gtoreq.1 dye capable of absorbing actinic radiation, e.g., I [R1-R2 = H, alkyl, alkoxy, R1R2 may form a ring, R1 + R2 may be OCH2O; R3, R4 = H, Me; R5, R6 = H, or R5 + R7, R6 + R8 = C2H4, C3H6; R7, R8 may be alkyl; R5 + R7, R6 + R8 may not be C2H4 at the same time], and a borate anion coininitiator BX1X2X3X4- [X1, X2, X3, X4 = alkyl, aryl, alkenyl, alkynyl, alicyclic, heterocyclic, allyl, aralkyl]. The compn. can be used in holog.

IT 38394-52-4 38394-53-5

(photopolymerizable compns.)

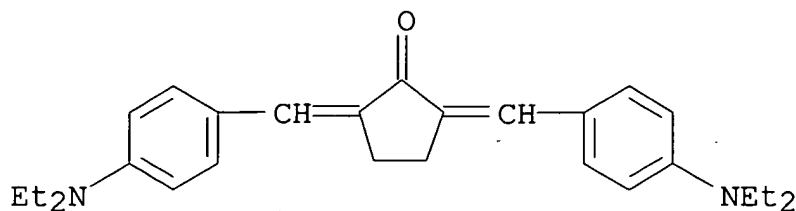
RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-  
(9CI) (CA INDEX NAME)



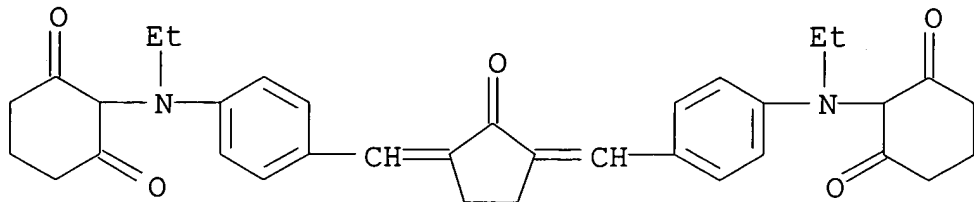
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



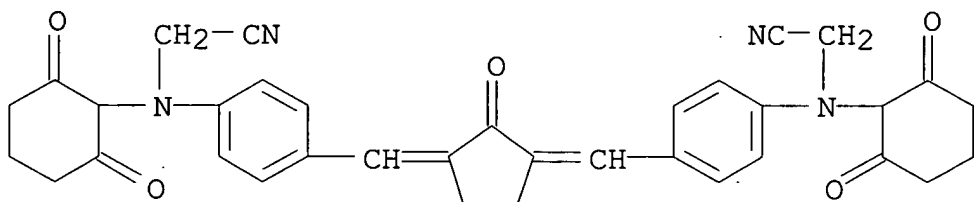
- IC ICM G03F007-028  
ICS C08F002-50; C08F004-52
- CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT **Photoimaging** compositions and processes  
(photopolymerizable, borate coinitiator in)
- IT 288-32-4D, 1H-Imidazole, hexaaryl derivs. 1707-68-2 27713-85-5  
**38394-52-4 38394-53-5** 71156-01-9 72700-01-7  
80867-04-5 80867-05-6 125594-50-5  
(photopolymerizable compns.)
- L37 ANSWER 5 OF 16 HCA COPYRIGHT 2004 ACS on STN
- 115:82260 Photopolymerizable **compositions** for **image** formation. Imahashi, Satoshi; Yamashita, Katsuhiro (Toyobo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 02274701 A2 19901108 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1989-97718 19890418.
- GI For diagram(s), see printed CA Issue.
- AB The title compns. showing high sensitivity to the visible region suitable for exposure to low-power laser at high scanning speed comprise (A) .gtoreq.1 ethylenically unsatd. compd. that is not a gas at room temp., (B) .gtoreq.1 compd. selected from Fe arene complex I [(m + n) .gtoreq. 0; R1, R2 not defined; R3 may form polynuclear ring system with the benzene ring; X = BF4, PF6, AsF6, SbF6, FeCl4, SnCl6, SbCl6, BiCl6], org. peroxide contg. ArC(O)O2-group [Ar = (un)substituted phenyl], and triazine derivs. II [X, Y, Z = (un)substituted alkyl, aryl, aralkyl; at least one of them represents mono-, di- or trihalomethyl group], and (C) p-aminophenyl unsatd. ketone compd. III [m, n = 0, 1; G = org. divalent group; R3 = H, (un)substituted C1-10 alkyl; R7-10 = H, substituent; R4 = CH or C1-5 group for forming a ring together with R5 and the CO group; R5 = C, (un)substituted Ph, or group needed for forming indanone or tetralone ring together with R4; R6 = :(CH:CH)1; 1 = 0, 1; X = (un)substituted phenyl].
- IT **134470-07-8 134470-08-9 134470-09-0**  
**134470-14-7 134470-15-8 134470-16-9**  
**134505-47-8 134505-48-9 134551-61-4**  
(catalysts contg., for photopolymn. photog. compns.)
- RN 134470-07-8 HCA

CN 1,3-Cyclohexanedione, 2,2'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidyne-4,1-phenylene(ethylimino)]]bis- (9CI) (CA INDEX NAME)



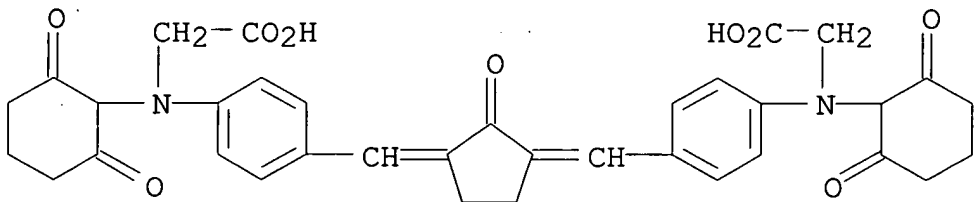
RN 134470-08-9 HCA

CN Acetonitrile, 2,2'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidyne-4,1-phenylene[(2,6-dioxocyclohexyl)imino]]]bis- (9CI) (CA INDEX NAME)



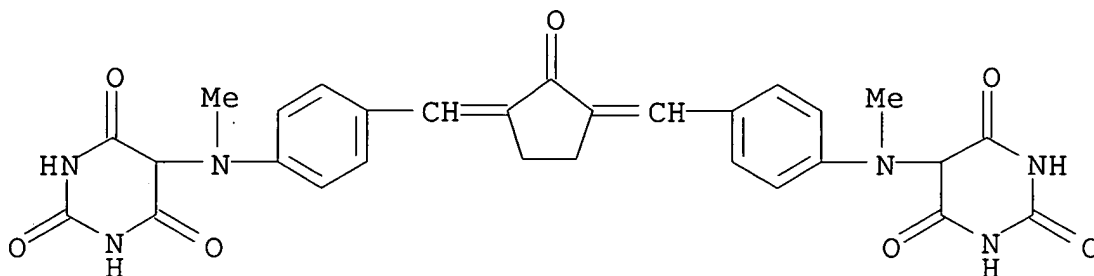
RN 134470-09-0 HCA

CN Glycine, N,N'-[(2-oxo-1,3-cyclopentanediyldiene)bis(methylidyne-4,1-phenylene)]bis[N-(2,6-dioxocyclohexyl)- (9CI) (CA INDEX NAME)



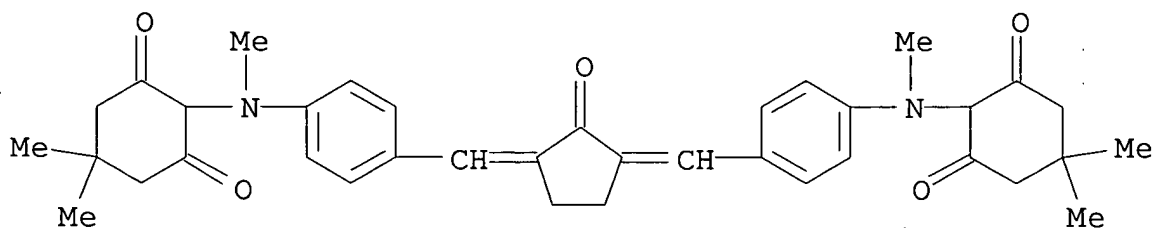
RN 134470-14-7 HCA

CN 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5,5'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidyne-4,1-phenylene(methylimino)]]bis- (9CI) (CA INDEX NAME)



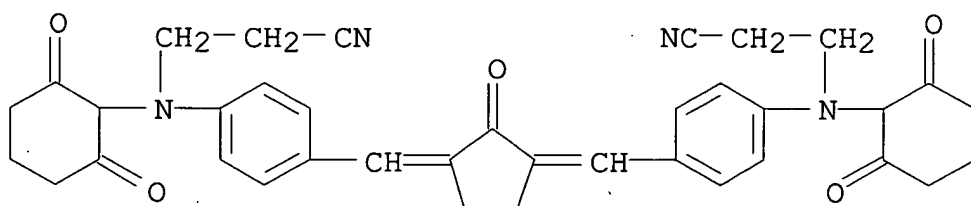
RN 134470-15-8 HCA

CN 1,3-Cyclohexanedione, 2,2'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidyne-4,1-phenylene(methylimino)]]bis[5,5-dimethyl- (9CI) (CA INDEX NAME)



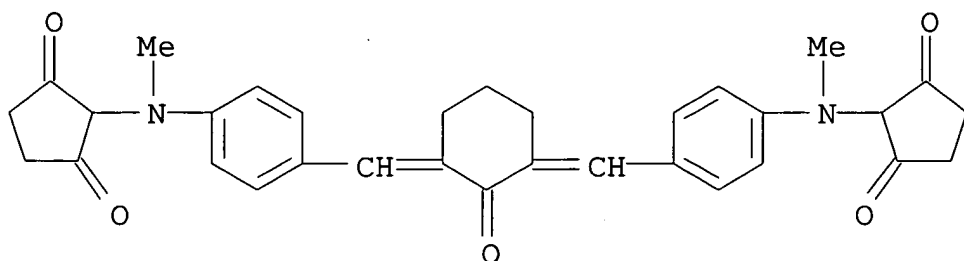
RN 134470-16-9 HCA

CN Propanenitrile, 3,3'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidyne-4,1-phenylene[(2,6-dioxocyclohexyl)imino]]]bis- (9CI) (CA INDEX NAME)



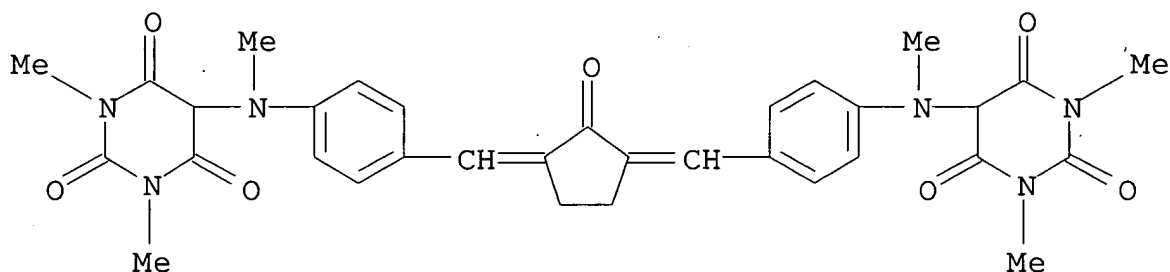
RN 134505-47-8 HCA

CN 1,3-Cyclopentanedione, 2,2'-[(2-oxo-1,3-cyclohexanediyldiene)bis[methylidyne-4,1-phenylene(methylimino)]]bis- (9CI) (CA INDEX NAME)



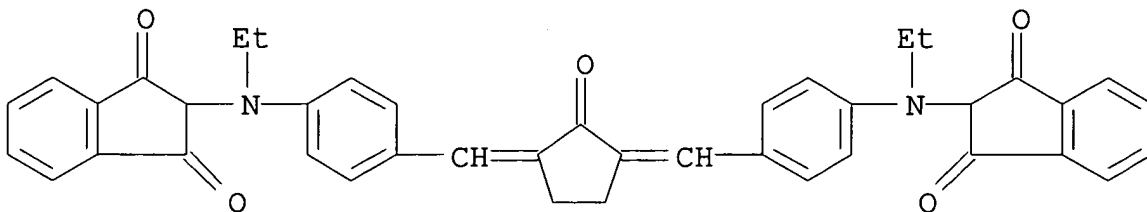
RN 134505-48-9 HCA

CN 2,4,6(1H,3H,5H)-Pyrimidinetrione, 5,5'-[(2-oxo-1,3-cyclopentanediylydene)bis[methylidyne-4,1-phenylene(methylimino)]]bis[1,3-dimethyl- (9CI) (CA INDEX NAME)



RN 134551-61-4 HCA

CN 1H-Indene-1,3(2H)-dione, 2,2'-[(2-oxo-1,3-cyclopentanediylylidene)bis[methyldidyne-4,1-phenylene(ethylimino)]]bis-  
(9CI) (CA INDEX NAME)



IC ICM C08F002-50

ICS G03F007-028

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 35

IT      **Photoimaging** compositions and processes

(photoinitiator systems for, contg. iron arene complexes, org. peroxides, triazine compds., and unsatd. ketones)

IT 3712-60-5 6542-67-2, 2,4,6-Tris(trichloromethyl)-s-triazine



12176-31-7 24504-22-1 25155-25-3, .alpha.,.alpha.'-Bis(tert-butylperoxyisopropyl)benzene 30339-34-5 30362-01-7,  
 2,4,6-Tris(dibromomethyl)-s-triazine 30362-02-8 32912-48-4  
 33086-63-4 33480-27-2 42880-03-5 59183-95-8 69432-40-2  
 77473-08-6, 3,3',4,4'-Tetrakis(tert-butylperoxycarbonyl)benzophenone  
 94852-45-6 127371-18-0 134470-06-7 **134470-07-8**  
**134470-08-9 134470-09-0 134470-10-3**  
 134470-11-4 134470-12-5 134470-13-6 **134470-14-7**  
**134470-15-8 134470-16-9 134505-47-8**  
**134505-48-9 134551-61-4 134588-04-8**  
 134609-26-0

(catalysts contg., for photopolymn. photog. compns.)

L37 ANSWER 6 OF 16 HCA COPYRIGHT 2004 ACS on STN

114:14928 Photopolymerizable **photoimaging composition**  
 containing unsaturated aminophenyl ketone. Imahashi, Satoshi;  
 Saito, Atsushi (Toyobo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
 01303430 A2 19891207 Heisei, 6 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1988-135297 19880531.

GI For diagram(s), see printed CA Issue.

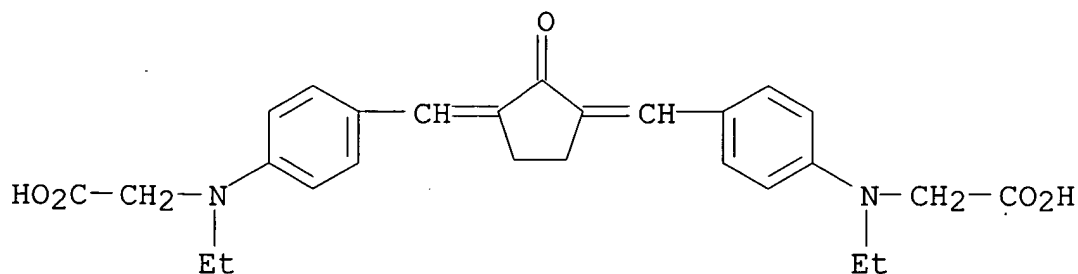
AB The title compn. contains (a) .gtoreq.1 kind of nongaseous ethylenic  
 unsatd. compds., (b) an org. peroxide having a group AC(O)O2 (A =  
 Ph, C1-4 alkyl or alkoxy, amino, etc.), and (c) an unsatd.  
 p-aminophenyl ketone I (m, n = 0, 1; .gtoreq.1 of R1 and R2 is  
 CH2CO2R5 where R5 = H, C1-5 alkyl, alkali metal, ammonium, amine,  
 C2H4CF3, etc., and either 1 of R1 and R2 may be H or C1-5 alkyl; R3  
 = methylidyne, C1-5 alkylidyne to form a ring with R4 and carbonyl  
 group; R4 = C, Ph, a group to form indanone or tetralone with R3 and  
 carbonyl group; R6, R7 = H, C1-5 alkyl, CH2CO2R8; R8 = R5).

IT **127371-23-7 127371-25-9 127371-26-0**  
**127371-27-1 129865-07-2**

(photopolymerizable **photoimaging** compns. contg.)

RN 127371-23-7 HCA

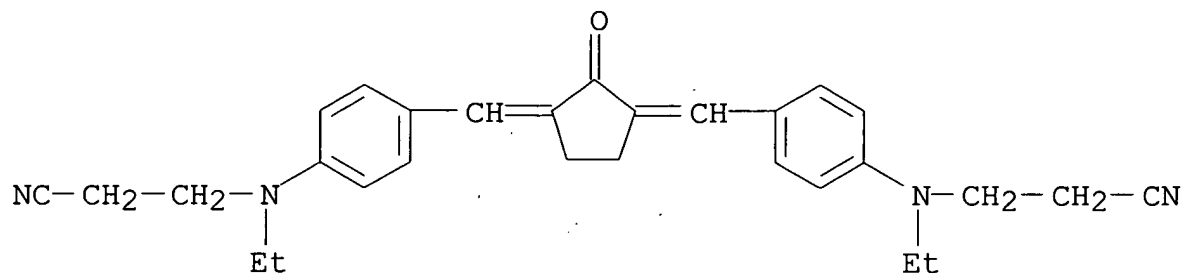
CN Glycine, N,N'-[(2-oxo-1,3-cyclopentanediyldiene)bis(methylidyne-4,1-phenylene)]bis[N-ethyl- (9CI) (CA INDEX NAME)



RN 127371-25-9 HCA

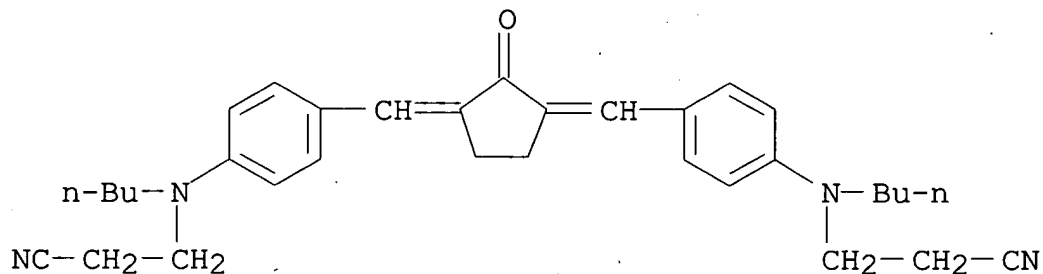
CN Propanenitrile, 3,3'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidyne

ne-4,1-phenylene(ethylimino)]bis- (9CI) (CA INDEX NAME)



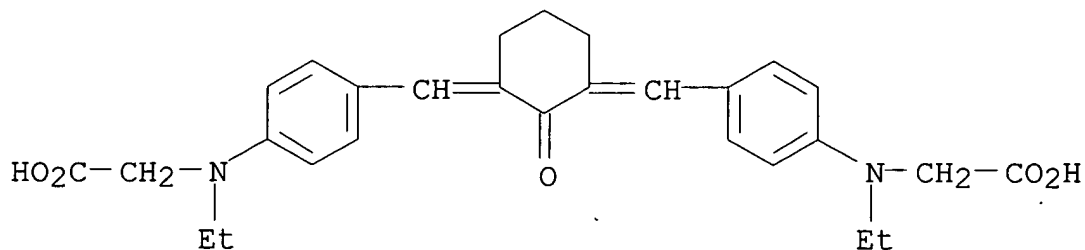
RN 127371-26-0 HCA

CN Propanenitrile, 3,3'-[(2-oxo-1,3-cyclopentanediyldiene)bis[methylidene-4,1-phenylene(butylimino)]]bis- (9CI) (CA INDEX NAME)



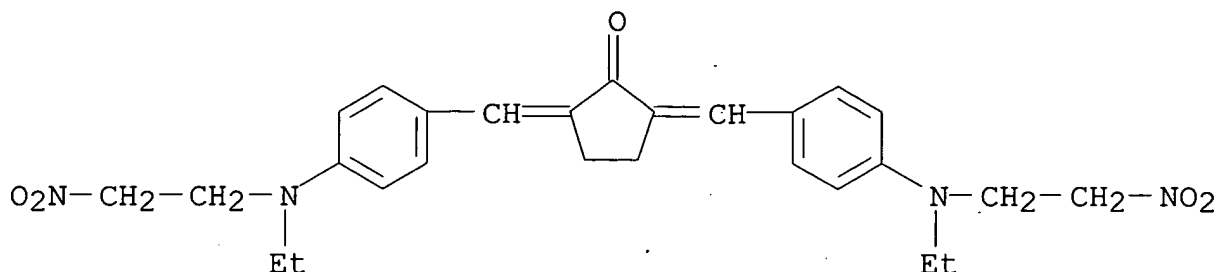
RN 127371-27-1 HCA

CN Glycine, N,N'-[(2-oxo-1,3-cyclohexanediylidene)bis(methylidyne-4,1-phenylene)]bis[N-ethyl- (9CI) (CA INDEX NAME)



RN 129865-07-2 HCA

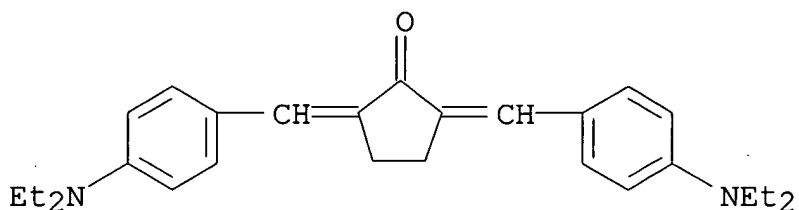
CN Cyclopentanone, 2,5-bis[[4-[ethyl(2-nitroethyl)amino]phenyl]methylene]- (9CI) (CA INDEX NAME)



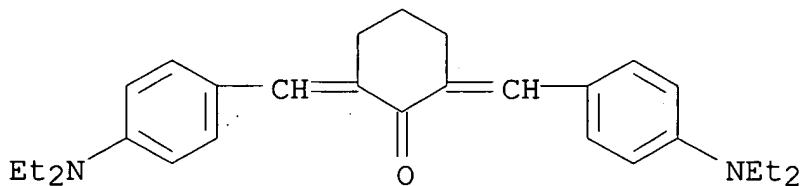
- IC ICM G03C001-68  
ICS C08F002-50; C08F036-00; G03C001-68
- CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST photopolymer **photoimaging** compn unsatd ketone; org peroxide  
photopolymer **photoimaging** compn
- IT **Photoimaging** compositions and processes  
(photopolymerizable, contg. org. peroxides and unsatd. aminophenyl ketones and ethylenic unsatd. compds.)
- IT 614-45-9, tert-Butylperoxybenzoate 17831-71-9, Tetraethylene glycol diacrylate 25086-15-1, Methacrylic acidmethyl methacrylate copolymer 33943-20-3, Di(tert-butylperoxy)isophthalate 77473-08-6, 3,3',4,4'-Tetra(tert-butylperoxycarbonyl)benzophenone 127371-23-7 127371-25-9 127371-26-0 127371-27-1 129865-07-2 130953-35-4  
(photopolymerizable **photoimaging** compns. contg.)
- L37 ANSWER 7 OF 16 HCA COPYRIGHT 2004 ACS on STN  
112:243096 Photopolymerizable **composition**. Imahashi, Satoshi; Saito, Atsushi; Yamashita, Katuhiro (Toyo Boseki K. K., Japan). Ger. Offen. DE 3918105 A1 19891214, 18 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1989-3918105 19890602. PRIORITY: JP 1988-136272 19880602; JP 1988-266654 19881022; JP 1988-312748 19881210.
- AB The title compn. contains: (1) .gtoreq.1 ethylenically unsatd. compd. which is not a gas at room temp.; (2) .gtoreq.1 organometallic arene compd.; (3) .gtoreq.1 compd. selected from an unsatd. o-aminophenyl ketone, a pyridine deriv. or its salts, or a xanthene or thioxanthene compd. and their mixts.; and optionally (4) .gtoreq.1 compd. selected from a phenylglycine deriv., a cyclic diketone compd., or their mixts. The compn. has high photosensitivity. The material can be used in industrial printing, photoresists, and the like.
- IT 38394-53-5 80601-02-1 127371-20-4  
127371-21-5, 2,5-Bis(4'-dibutylaminobenzylidene)cyclopentanone 127371-22-6 127371-23-7 127371-24-8  
127371-25-9 127371-26-0 127371-27-1

**127371-28-2**(photopolymerizable **photoimaging** compn. contg.)

RN 38394-53-5 HCA

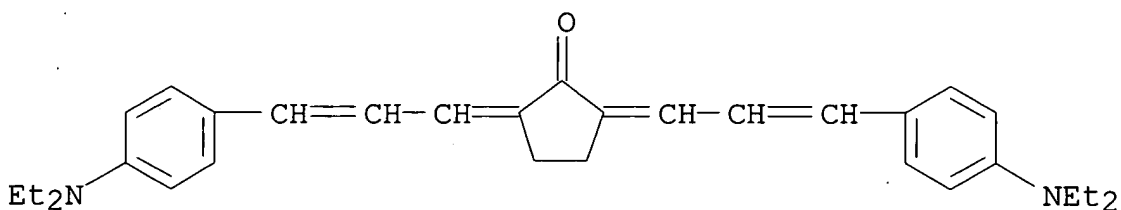
CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)

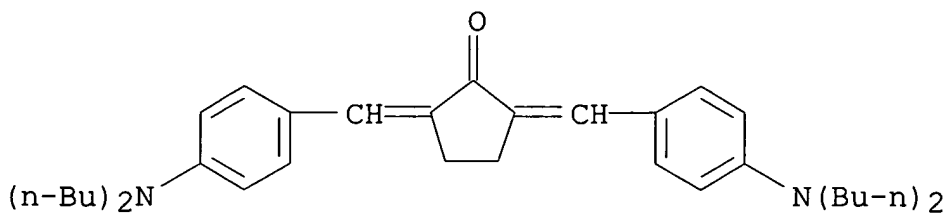
RN 127371-20-4 HCA

CN Cyclopentanone, 2,5-bis[3-[4-(diethylamino)phenyl]-2-propenylidene]- (9CI) (CA INDEX NAME)



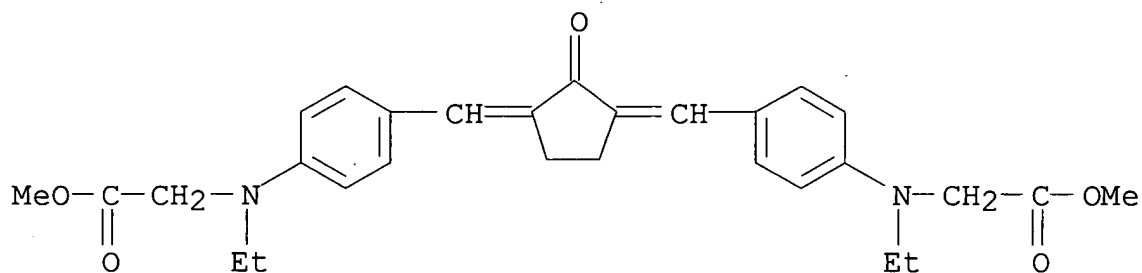
RN 127371-21-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(dibutylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



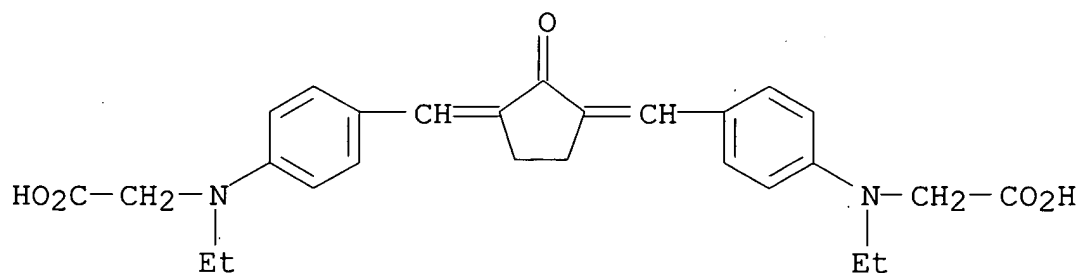
RN 127371-22-6 HCA

CN Glycine, N,N'-[(2-oxo-1,3-cyclopentanediyliidene)bis(methylidyne-4,1-phenylene)]bis[N-ethyl-, dimethyl ester (9CI) (CA INDEX NAME)



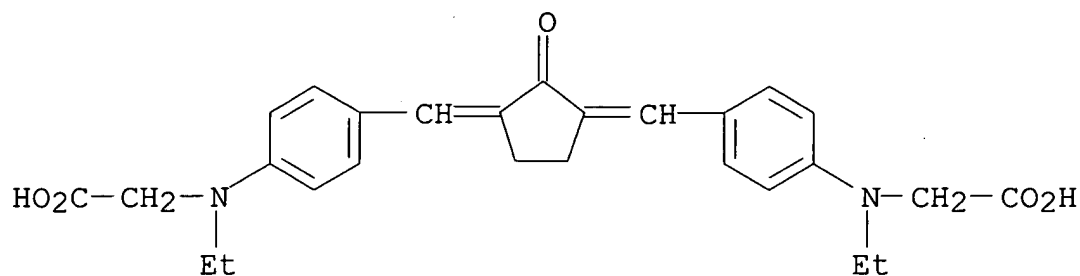
RN 127371-23-7 HCA

CN Glycine, N,N'-[(2-oxo-1,3-cyclopentanediyliidene)bis(methylidyne-4,1-phenylene)]bis[N-ethyl- (9CI) (CA INDEX NAME)



RN 127371-24-8 HCA

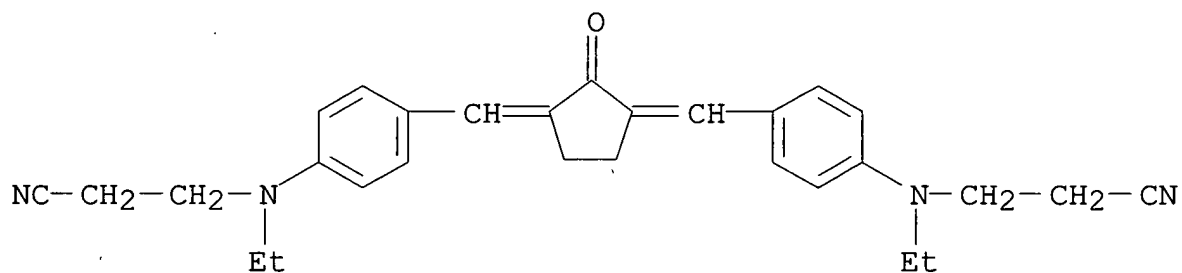
CN Glycine, N,N'-[(2-oxo-1,3-cyclopentanediyliidene)bis(methylidyne-4,1-phenylene)]bis[N-ethyl-, disodium salt (9CI) (CA INDEX NAME)



●2 Na

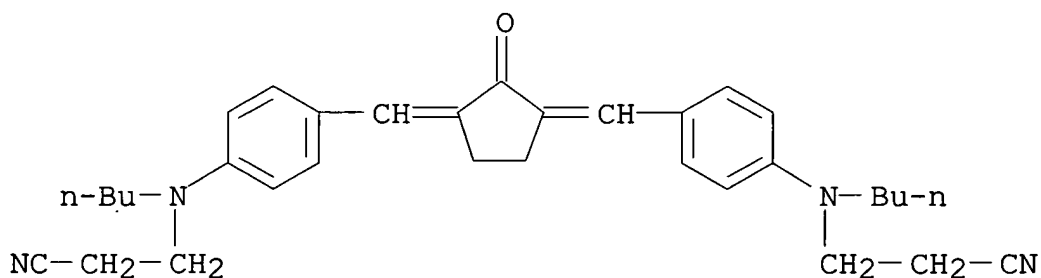
RN 127371-25-9 HCA

CN Propanenitrile, 3,3'-[(2-oxo-1,3-cyclopentanediyliidene)bis[methylidene-4,1-phenylene(ethylimino)]]bis- (9CI) (CA INDEX NAME)



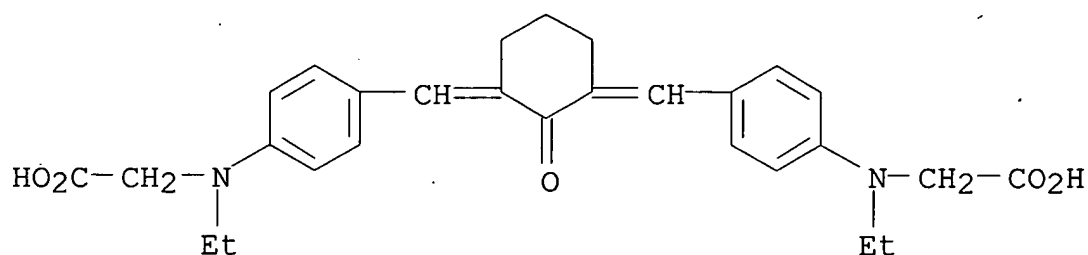
RN 127371-26-0 HCA

CN Propanenitrile, 3,3'-[(2-oxo-1,3-cyclopentanediyliidene)bis[methylidene-4,1-phenylene(butylimino)]]bis- (9CI) (CA INDEX NAME)



RN 127371-27-1 HCA

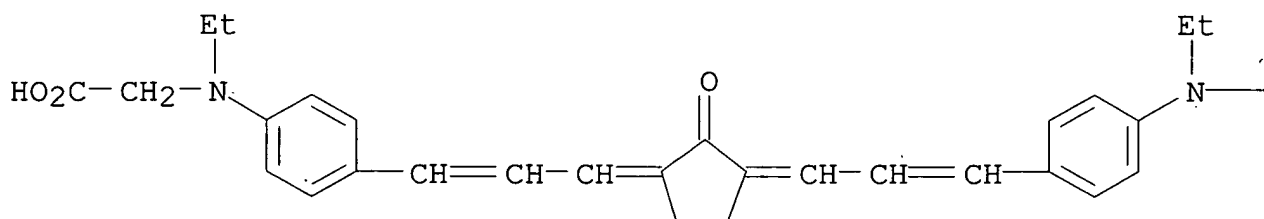
CN Glycine, N,N'-[(2-oxo-1,3-cyclohexanediyliidene)bis(methylidyne-4,1-phenylene)]bis[N-ethyl- (9CI) (CA INDEX NAME)]



RN 127371-28-2 HCA

CN Glycine, N,N'-[(2-oxo-1,3-cyclohexanedimethylene)bis(1-propen-1-yl-3-ylidene-4,1-phenylene)]bis[N-ethyl- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B

—CH<sub>2</sub>—CO<sub>2</sub>H

IC ICM G03F007-10

ICS C08F002-50; C08F004-00

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Photoimaging** compositions and processes  
(photopolymer, with high photosensitivity)

IT 103-01-5, N-Phenylglycine 126-81-8 606-23-5, 1,3-Indandione  
 765-69-5 876-83-5, 2-Methyl-1,3-indandione 1193-55-1 1846-75-9  
 7358-61-4, 1,3,5-Trimethylbarbituric acid 12176-31-7 12282-28-9  
 14121-47-2 17831-71-9, Tetraethyleneglycol diacrylate 21911-69-3  
 27425-55-4 32760-76-2 32760-80-8 32912-48-4 33086-63-4  
 33480-27-2 36245-88-2 38215-36-0 **38394-53-5**  
 42288-26-6 51325-75-8 52308-73-3 58068-69-2 59688-18-5  
 72700-02-8, 2-(4'-Diethylaminobenzylidene)-1-tetralone

80601-02-1 90246-07-4 102355-72-6 102355-84-0  
 112667-00-2 119233-99-7, 2-(4'-Diethylaminobenzylidene)-1-indanone  
 127338-83-4 127366-36-3 127371-18-0 127371-19-1  
 127371-20-4 127371-21-5, 2,5-Bis(4'-  
 dibutylaminobenzylidene)cyclopentanone 127371-22-6  
 127371-23-7 127371-24-8 127371-25-9  
 127371-26-0 127371-27-1 127371-28-2  
 127371-29-3 127371-30-6 127371-31-7  
 (photopolymerizable **photoimaging** compn. contg.)

L37 ANSWER 8 OF 16 HCA COPYRIGHT 2004 ACS on STN

112:28198 Photopolymerizable **composition** for refractive index  
**imaging**. Monroe, Bruce Malcolm; Smothers, William Karl (du  
 Pont de Nemours, E. I., and Co., USA). Eur. Pat. Appl. EP 324480 A2  
 19890719, 25 pp. DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT,  
 LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP  
 1989-100495 19890112. PRIORITY: US 1988-144355 19880115.

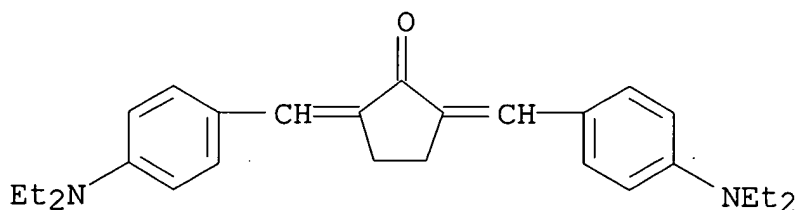
AB A substantially solid photopolymerizable compn. that forms a  
 refractive-index **image** upon exposure to actinic radiation  
 as the sole processing step comprises 25-75% of a solvent-sol.  
 thermoplastic polymeric binder, 5-60% of a liq. ethylenically  
 unsatd. monomer having a b.p. >100.degree. and being capable of  
 addn. polymn., and 0.1-10% of a photoinitiator system that activated  
 polymn. of the unsatd. monomer upon exposure to actinic radiation.  
 The photopolymerizable compn. may also contain a liq. plasticizer  
 selected from tris(2-ethylhexyl)phosphate, glyceryl tributyrates, and  
 compds. having the formula  $R_1CO(OC_2H_4)_xO_2CR_2$ ,  $R_1O_2C(CH_2)_yCO_2R_2$ , or  
 $R_3(OCH_2CHR_4)_zOH$  ( $R_1, R_2$  = C1-10 alkyl;  $R_3$  = H, C8-16 alkyl;  $R_4$  = H,  
 Me;  $x$  = 1-4;  $y$  = 2-20;  $z$  = 1-20). The photopolymerizable compn.  
 thus prepd. is useful in prepg. optical elements, esp. holograms.

IT **38394-53-5**

(photopolymerizable compns. contg., for causing refractive index  
 changes upon curing for prepn. of optical elements and holograms)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



IC ICM G03C001-68

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)



Section cross-reference(s): 73

- ST photopolymerizable compn refractive index **imaging**; optical element solid photopolymerizable compn; hologram formation photopolymerizable compn
- IT 106-10-5, Triethyleneglycoldicaprylate 109-16-0 128-37-0, 2,6-Di-tert-butyl-4-methylphenol, uses and miscellaneous 150-76-5, 4-Methoxyphenol 937-41-7, Phenylacrylate 1484-13-5, N-Vinylcarbazole 1680-21-3, Triethyleneglycoldiacrylate 1707-68-2 2144-53-8 2382-96-9, 2-Mercaptobenzoxazole 3290-92-4 3530-36-7, 2-Phenylethylacrylate 3741-77-3, 2,4,6-Tribromophenylacrylate 4074-88-8 4513-43-3, Pentachlorophenylacrylate 5888-33-5 7328-17-8 9003-53-6, Polystyrene 9003-54-7, Acrylonitrile-styrene copolymer 9004-36-8, Cellulose acetate butyrate 9011-14-7, Poly(methylmethacrylate) 10595-06-9, 2-Phenoxyethylmethacrylate 13048-34-5 13633-87-9, p-Chlorophenylacrylate 15498-45-0 25034-86-0, Methylmethacrylate-styrene copolymer 25086-15-1, Methylmethacrylate-methacrylic acid copolymer 25135-39-1, Methylmethacrylate-ethylacrylate-acrylic acid copolymer 28961-43-5 **38394-53-5** 46464-63-5 48145-04-6 52684-34-1 80867-05-6 124354-60-5

(photopolymerizable compns. contg., for causing refractive index changes upon curing for prepn. of optical elements and holograms)

L37 ANSWER 9 OF 16 HCA COPYRIGHT 2004 ACS on STN

109:160691 Visible laser-sensitive **photoimaging compositions** and processes. Tamaoki, Nobuyuki (Toyobo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 63055539 A2 19880310 Showa, 7 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-126823. 19860530.

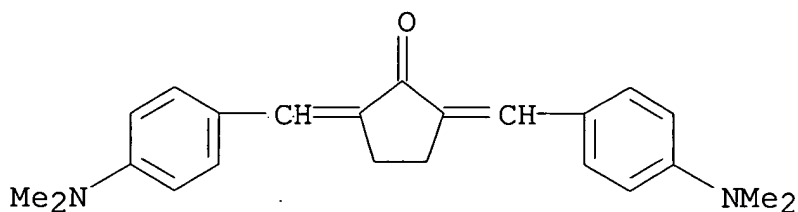
AB The title material contains (a) a photooxidn. agent which becomes an oxidn. agent by irradiation of a visible laser (420-550 nm), (b) a leuco body which becomes a dye by reacting with the oxidn. agent, (c) a photopolymn. initiator which generates a radical with the dye by irradiating with light (550-700 nm), and (d) >1 ethylenically unsatd. compd. nongaseous at room temp. The method for **image** formation involves irradiating with a visible laser 420-550 nm, and then with light 550-700 nm to harden **image** areas. The material shows high sensitivity to visible laser.

IT **19226-99-4**

(visible laser-sensitive **image** forming material contg.)

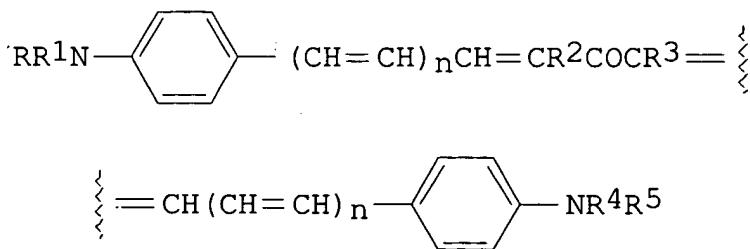
RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



- IC ICM G03C001-68  
ICS G03C001-00  
ICA G03C005-16  
CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
ST visible laser **photoimaging** compn process  
IT **Photoimaging** compositions and processes  
(visible laser-sensitive, compn. contg. leuco dye and acrylate copolymer for)  
IT 603-48-5 1230-56-4 1707-68-2, Bis(2-o-chlorophenyl-4,5-diphenyl) imidazole 6310-57-2 6542-67-2 **19226-99-4** 29777-36-4 50657-50-6 68582-45-6 81331-14-8, 2,2'-Bis(2-chloro-1-naphthyl)-4,4',5,5'-tetraphenyl biimidazole 109347-99-1 109348-01-8  
(visible laser-sensitive **image** forming material contg.)
- L37 ANSWER 10 OF 16 HCA COPYRIGHT 2004 ACS on STN  
103:96389 Photoinsolubilizing resin **composition**. (Agency of Industrial Sciences and Technology, Japan). Jpn. Kokai Tokkyo Koho JP 60078443 A2 19850504 Showa, 4 pp. (Japanese). CODEN: JKXXAF.  
APPLICATION: JP 1983-186398 19831005.

GI



- AB Resin compn. contains ethylenic monomer and a photoinitiator, which is a combination of an unsatd. ketone having the general formula I (R, R1, R4, R5 = alkyl; R2, R3 = H, or are combined to form C1-3 alkylene group that is a part of a ring system; n = 0,1) with a diaryliodonium salt. The unsatd. ketone effectively promotes photodecompn. of the iodonium compd., and the use of the

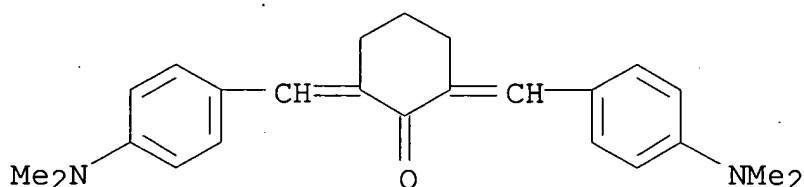
photoinitiator provides high sensitivity of the resin compn., esp. at longer wavelengths. Thus, 0.01 part of diphenyliodonium hexafluorophosphate and 0.01 part of bis(p-dimethylaminobenzylidene)acetone were added to 1 part of 10% dioxane soln. of a copolymer prepd. by introducing methacryloyl group to 1:1 chloromethylstyrene-Me methacrylate copolymer, and the mixt. was coated on an anodized Al plate. Photosensitivity to Xe lamp radiation was 32 times higher than that of com. products.

IT 18977-38-3 19226-99-4

(photoimaging resin compn. contg.)

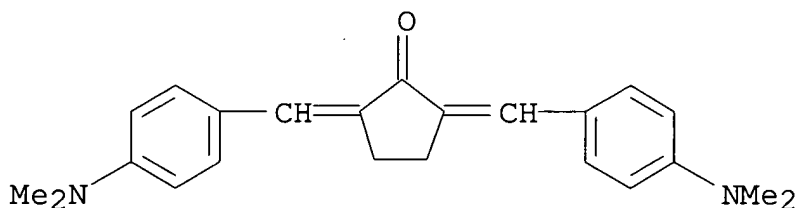
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM G03C001-00

ICS C08F002-50; G03C001-68

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST **photoimaging** photocuring photoinitiator compn; iodonium salt photopolymn initiator; ketone unsatd photopolymn initiator

IT Printing plates

(photosensitive **imaging** resin compn. contg. iodonium salt and unsatd. ketone and methacryloylated chloromethylstyrene-Me methacrylate polymer in relation to)

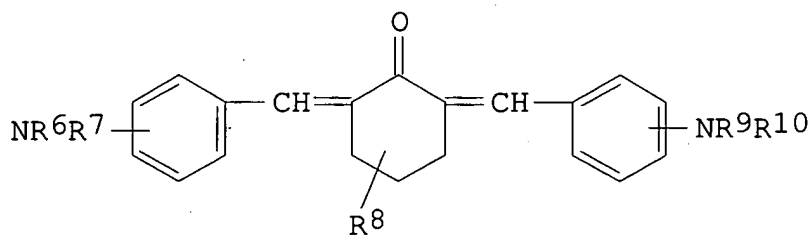
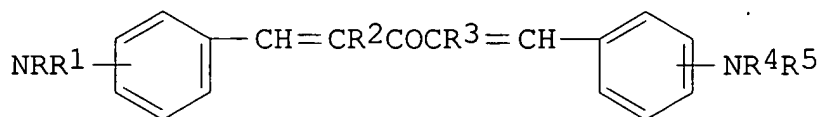
IT **Photoimaging** compositions and processes

(photosensitive resin compn. for, contg. iodonium salt and unsatd. ketone and methacryloylated chloromethylstyrene-Me methacrylate polymer)

- IT Resists  
 (photo-, photosensitive **imaging** resin compn. contg.  
 iodonium salt and unsatd. ketone and methacryloylated  
 chloromethylstyrene-Me methacrylate polymer in relation to)
- IT 3524-68-3 6673-14-9 9011-14-7 **18977-38-3**  
**19226-99-4** 25038-54-4D, derivs., dimethylaminated  
 58109-40-3 60098-22-8D, methacryloylated 97794-21-3  
 (photoimaging resin compn. contg.)

L37 ANSWER 11 OF 16 HCA COPYRIGHT 2004 ACS on STN  
 98:170382 Photoresist **composition**. Kamoshida, Youichi;  
 Yoshihara, Toshiaki; Harita, Yoshiyuki; Harada, Kunihiro (Japan  
 Synthetic Rubber Co., Ltd., Japan). Eur. Pat. Appl. EP 68808 A2  
 19830105, 34 pp. DESIGNATED STATES: R: DE, FR, GB. (English).  
 CODEN: EPXXDW. APPLICATION: EP 1982-303276 19820623. PRIORITY: JP  
 1981-96963 19810623.

GI



AB A photoresist compn. providing an **image** having a high  
 resoln. and excellent reproducibility which is not affected by the  
 prebaking conditions comprises a cyclized product of a conjugated  
 diene polymer, a photo-crosslinking agent and an antihalation agent  
 I or II (R1-R10 = H, alkyl). Thus, a Si wafer was coated with a  
 compn. contg. cyclized cis-1,4-isoprene polymer 11,  
 2,6-bis(4-azidobenzylidene)cyclohexanone 0.22, 2,2'-methylenebis(6-  
 tert-butyl-4-methylphenol) 0.11, 4,4'-thiobis(2,6-di-tert-  
 butylphenol) 0.11, 1,5-bis(4-diethylaminophenyl)penta-1,4-dien-3-one  
 0.55, xylene 88 g, dried at 95.degree. for 30 min, imagewise exposed  
 to UV lamp (50 W/m2) for 6 s, and developed to give an **image**  
 with resoln. 1.8 .mu.m.

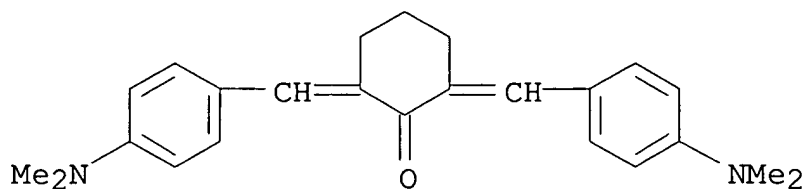
- IT **18977-38-3** 38102-83-9 **65446-46-0**  
**65446-47-1** 79575-97-6 80601-02-1

85180-15-0 85180-16-1 85180-17-2  
85180-18-3 85180-19-4 85180-20-7  
85180-21-8 85180-22-9 85180-23-0  
85180-24-1 85180-29-6 85180-30-9  
85180-31-0 85191-85-1

(photolysis of compn. contg., for integrated circuits prepn.)

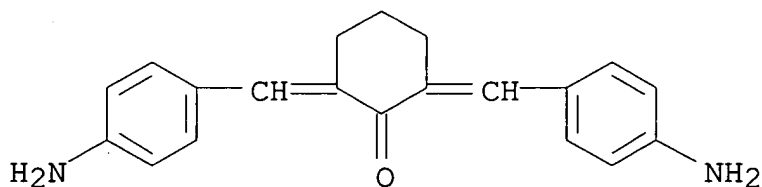
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



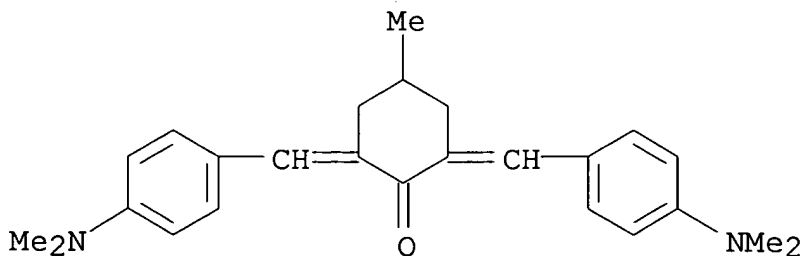
RN 38102-83-9 HCA

CN Cyclohexanone, 2,6-bis[(4-aminophenyl)methylene]- (9CI) (CA INDEX NAME)



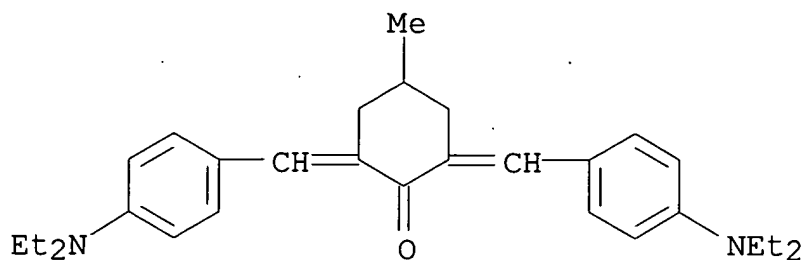
RN 65446-46-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl- (9CI) (CA INDEX NAME)



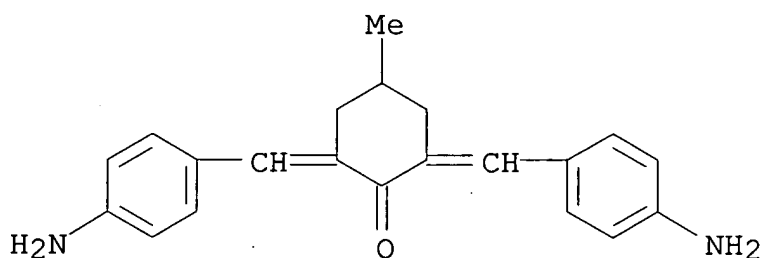
RN 65446-47-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-methyl- (9CI) (CA INDEX NAME)



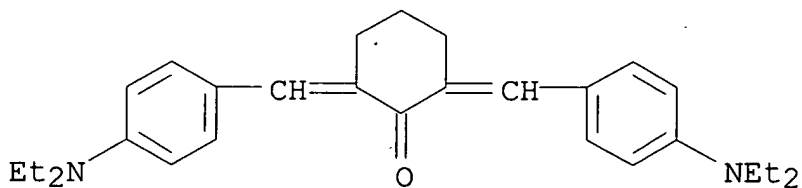
RN 79575-97-6 HCA

CN Cyclohexanone, 2,6-bis[(4-aminophenyl)methylene]-4-methyl- (9CI)  
(CA INDEX NAME)



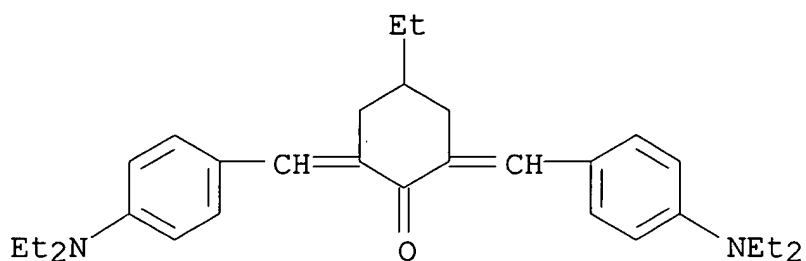
RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



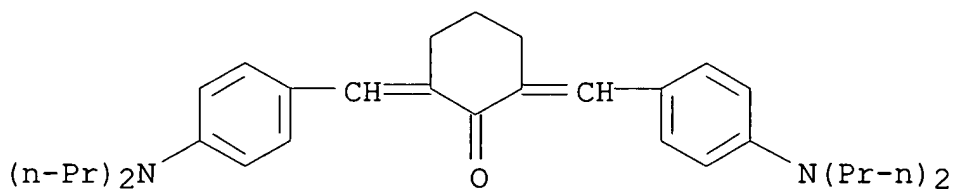
RN 85180-15-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-ethyl-  
(9CI) (CA INDEX NAME)



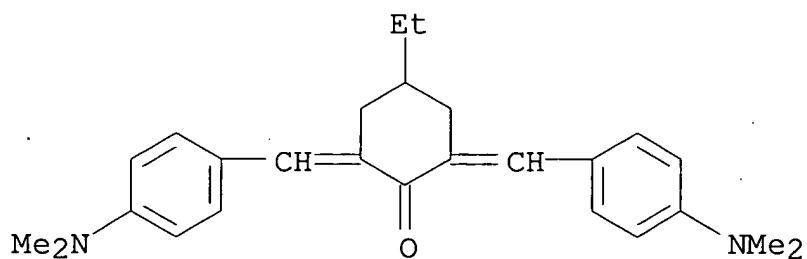
RN 85180-16-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(dipropylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



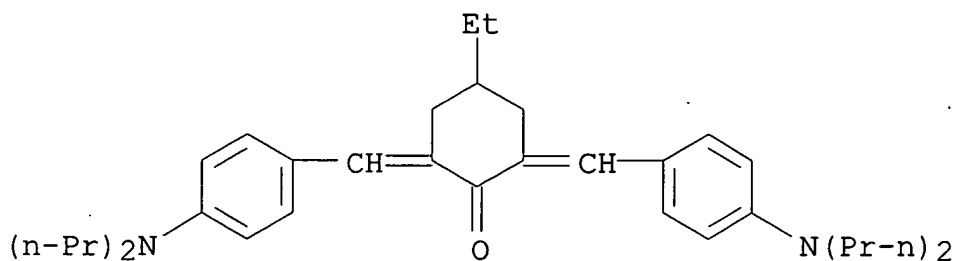
RN 85180-17-2 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-ethyl-  
(9CI) (CA INDEX NAME)



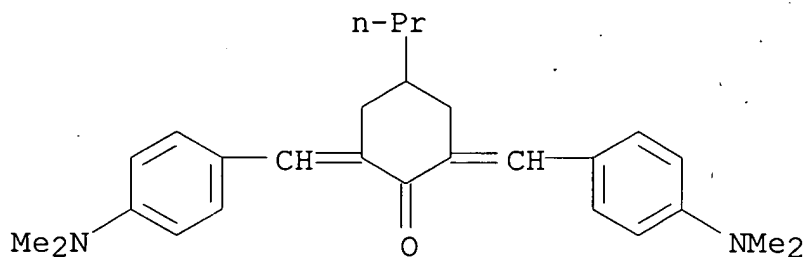
RN 85180-18-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dipropylamino)phenyl]methylene]-4-ethyl-  
(9CI) (CA INDEX NAME)



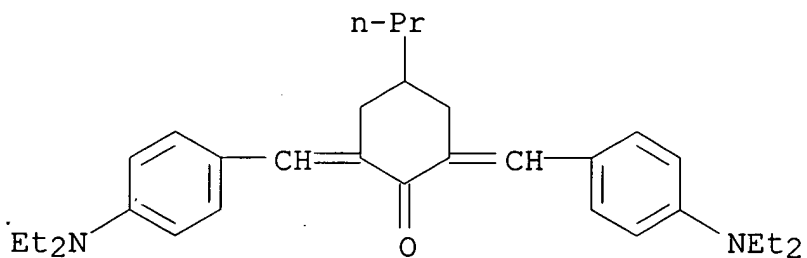
RN 85180-19-4 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-propyl-  
(9CI) (CA INDEX NAME)



RN 85180-20-7 HCA

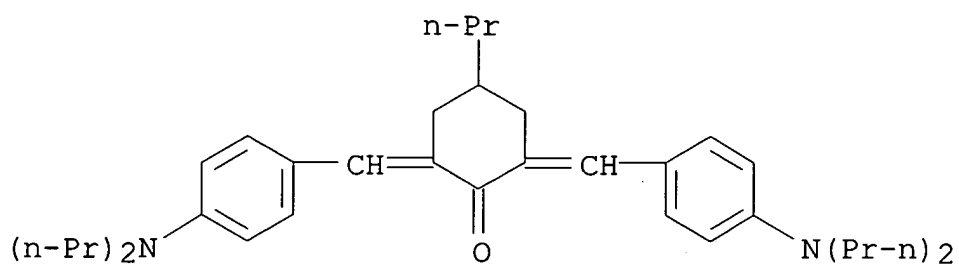
CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-propyl-  
(9CI) (CA INDEX NAME)



RN 85180-21-8 HCA

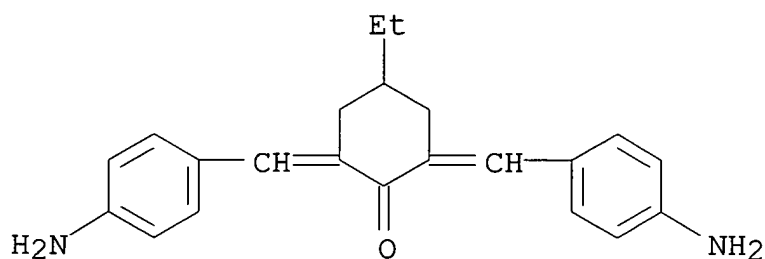
CN Cyclohexanone, 2,6-bis[[4-(dipropylamino)phenyl]methylene]-4-propyl-  
(9CI) (CA INDEX NAME)





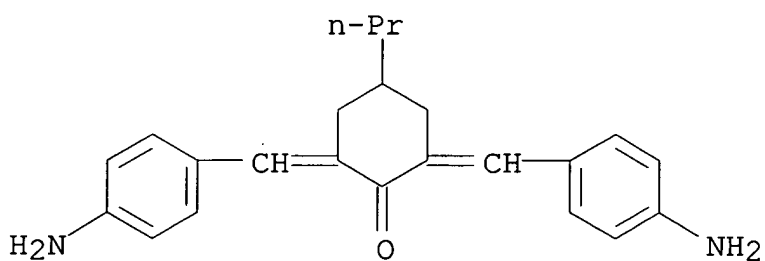
RN 85180-22-9 HCA

CN Cyclohexanone, 2,6-bis[(4-aminophenyl)methylene]-4-ethyl- (9CI) (CA INDEX NAME)



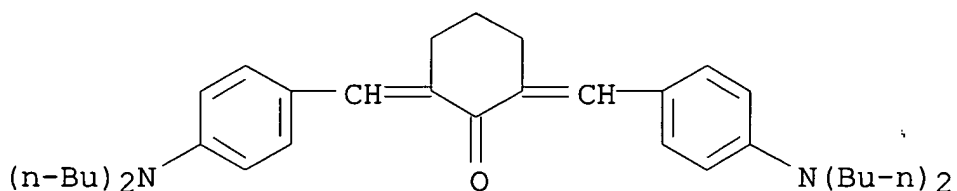
RN 85180-23-0 HCA

CN Cyclohexanone, 2,6-bis[(4-aminophenyl)methylene]-4-propyl- (9CI) (CA INDEX NAME)



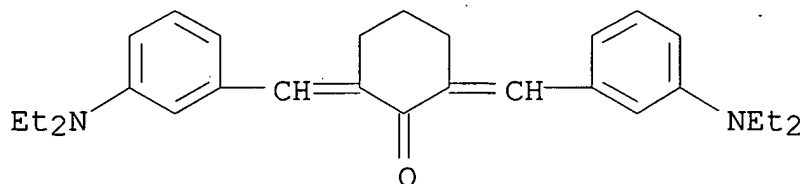
RN 85180-24-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(dibutylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



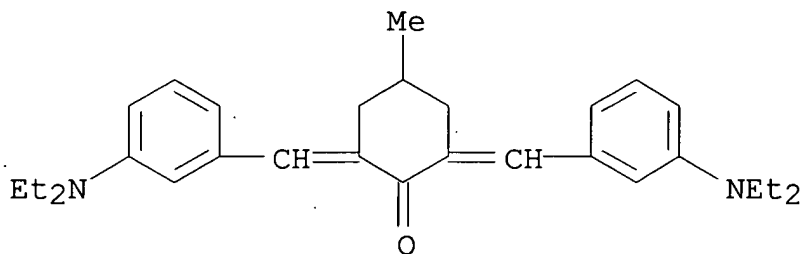
RN 85180-29-6 HCA

CN Cyclohexanone, 2,6-bis[[3-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



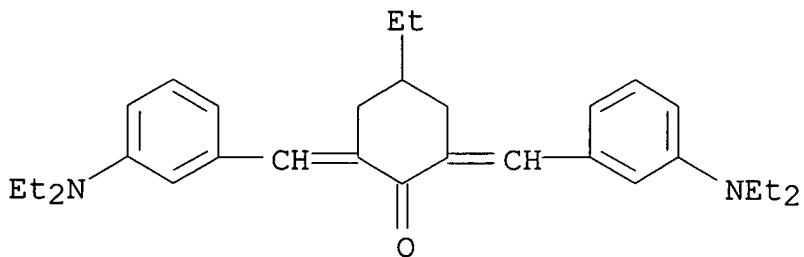
RN 85180-30-9 HCA

CN Cyclohexanone, 2,6-bis[[3-(diethylamino)phenyl]methylene]-4-methyl-  
(9CI) (CA INDEX NAME)

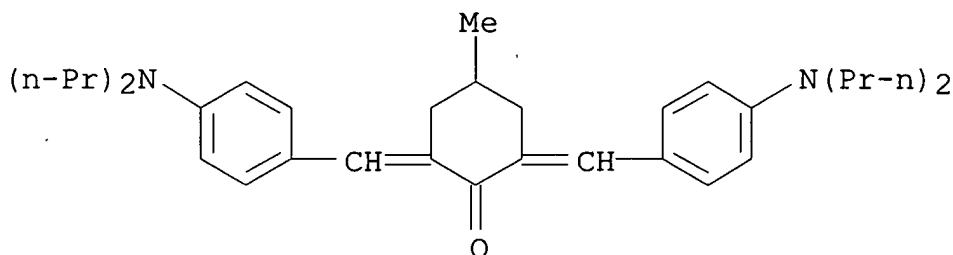


RN 85180-31-0 HCA

CN Cyclohexanone, 2,6-bis[[3-(diethylamino)phenyl]methylene]-4-ethyl-  
(9CI) (CA INDEX NAME)



RN 85191-85-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(dipropylamino)phenyl]methylene]-4-methyl-  
(9CI) (CA INDEX NAME)IC G03F007-26; G03C001-71; C08L009-00; C08F036-04; C08F136-04;  
C08F236-04; C08K005-18

ICA H01L021-312; H01L021-47; H05K003-06

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

IT 10141-48-7 18977-38-3 38102-83-9 61445-93-0

65446-46-0 65446-47-1 79575-97-6

80601-02-1 85180-15-0 85180-16-1

85180-17-2 85180-18-3 85180-19-4

85180-20-7 85180-21-8 85180-22-9

85180-23-0 85180-24-1 85180-25-2 85180-26-3

85180-27-4 85180-28-5 85180-29-6 85180-30-9

85180-31-0 85180-32-1 85180-33-2 85180-34-3

85191-85-1

(photolysis of compn. contg., for integrated circuits prepn.)

L37 ANSWER 12 OF 16 HCA COPYRIGHT 2004 ACS on STN

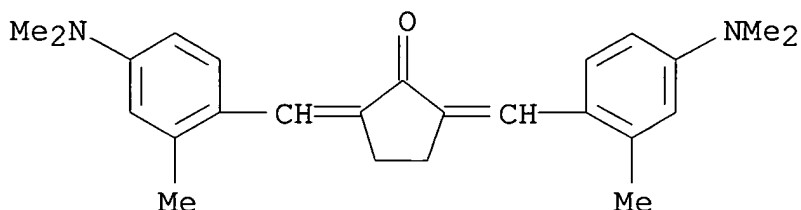
97:172461 **Photoimaging compositions** containingsubstituted cyclohexadienone compounds. Sysak, Peter K. (du Pont de  
Nemours, E. I., and Co., USA). U.S. US 4341860 A 19820727, 9 pp.  
(English). CODEN: USXXAM. APPLICATION: US 1981-271241 19810608.

AB A **photoimaging** compn. having excellent thermal stability  
and useful for printing, photoresists, copying, recording and  
decorative applications comprises a cyclohexadienone compd. and  
.gtoreq.1 of leuco dyes which are oxidizable to dyes by the  
cyclohexadienone compd. or of addn. polymerizable ethylenically  
unsatd. monomers. Thus, a poly(ethylene terephthalate) support was  
coated with a compn. contg. poly(Me methacrylate) 1 g,  
tris(4-dimethylaminophenyl)methane 0.27, 4-methyl-4-trichloromethyl-  
2,5-cyclohexadienone 0.44 mmol, and Me<sub>2</sub>CO 12 mL, dried, and  
imagewise exposed through a 20-step neutral d. transmission grey  
scale for 15 min to a 2 kW Hg lamp to show an **image** with 7  
colored steps and D<sub>max</sub> = 0.12.

IT 83372-15-0

(photoimaging compn. contg.)

RN 83372-15-0 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)-2-methylphenyl]methylene]-  
(9CI) (CA INDEX NAME)

IC G03C001-52; G03C001-68

NCL 430277000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)ST cyclohexadienone leuco dye **photoimaging**; photoresist  
printing recording compn cyclohexadienoneIT Electric circuits  
Lithographic plates

Printing plates

(photoimaging compns. contg. cyclohexadienone deriv. in  
fabrication of)IT **Photoimaging** compositions and processes

(photosensitive compn. contg. cyclohexadienone compd. as)

IT 90-94-8 91-44-1 536-17-4 1042-84-8 2744-51-6 3274-12-2  
6203-18-5 6317-85-7. 6611-78-5 14789-74-3 54537-87-0**83372-15-0**

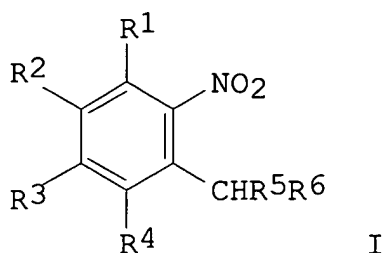
(photoimaging compn. contg.)

IT 603-48-5 1680-21-3 3524-68-3 4482-70-6 9010-88-2 9010-94-0  
9011-14-7 29777-36-4(photoimaging compn. contg. cyclohexadienone deriv.  
and)

L37 ANSWER 13 OF 16 HCA COPYRIGHT 2004 ACS on STN

95:178713 Photopolymerizable **composition** containing an  
O-nitroaromatic compound as photoinhibitor. Pazos, Jose F. (du Pont  
de Nemours, E. I., and Co., USA). Can. CA 1103084 19810616, 61 pp.  
(English). CODEN: CAXXA4. APPLICATION: CA 1977-273994 19770315.

GI



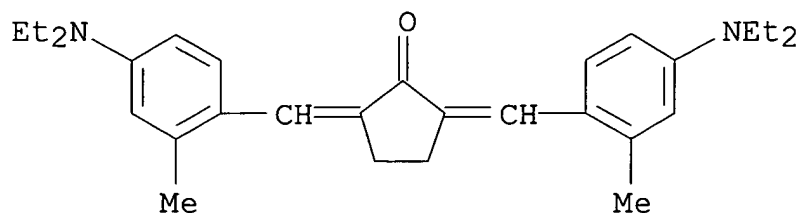
AB A photopolymerizable compn. and process for the prodn. of pos. **images** are described. In the process a photopolymerizable compn. contg. a normally nongaseous, ethylenically unsatd. compd. capable of addn. polymn. by free-radical initiated chain propagation, a nitroarom. compd. of formula I (R1-R4 = H, OH, halogen, NO2, CN, C1-18 alkyl, C1-18 alkoxy, aryl, PhCH2, halophenyl, polyether radical, dialkylamino, thioalkyl, thioaryl, or any 2 of R1-R4 together form a benzene ring and .ltoreq.1 of R1-R4 is OH or NO2; R5 = H, C1-18 alkyl, halogen, Ph, C1-18 alkoxy; R6 = H, OH, C1-18 alkyl, Ph, C1-18 alkoxy; or R5R6 together as O, CH6, NPh, or similar devalent group), and an org., radiation-sensitive, free radical-generating system activatable by actinic radiation that does not significantly rearrange the nitroarom. compd. to an inhibitor of free radical polymn. is coated on a suitable support, imagewise exposed through a transparency to radiation, .gtoreq.20% of which has a wavelength of .apprx.200 to .apprx.380 nm to rearrange at least some of the nitroarom. compd. to a polymn.-inhibiting nitroso arom. compd., then exposed to radiation with a wavelength of >380 nm to produce a pos polymer **image**, and then developed by an appropriate means to give a pos. polymeric **image**. Thus, a typical photopolymerizable compn contained 1,1,1-trimethylolpropane triacrylate (contg. hydroquinone and/or methylhydroquinone 200 ppm) 3.5 mL, o-nitrobenzyl alc 0.153, and phenanthrenequinone 0.021 g.

IT **38394-52-4**

(photopolymerizable **photoimaging** compns. contg. nitro compd. photoinhibitor and, for pos. **image** prodn.)

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-(9CI) (CA INDEX NAME)



- IC G03C001-70; G03C005-24  
 CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)  
 ST photopolymer nitro compd pos **image**; photoinhibitor nitro compd **photoimaging**  
 IT Nitro compounds  
 (arom., photoinhibitors, in photopolymerizable compns. for pos. **image** prodn.)  
 IT **Photoimaging** compositions and processes  
 (photopolymerizable, contg. nitroarom. compds. as photoinhibitors for pos. **image** prodn.)  
 IT 528-75-6 552-89-6 579-71-5 612-25-9 879-55-0 1016-58-6  
 6526-72-3 15862-94-9 17064-77-6 20357-25-9 21203-88-3  
 21829-26-5 39830-70-1 48140-35-8 63190-11-4 65907-71-3  
 65907-73-5 65907-74-6 71172-14-0  
 (photoinhibitor, in photopolymerizable **photoimaging** compns. for pos. **image** prodn.)  
 IT 84-11-7 95-71-6 106-10-5 109-16-0 111-21-7 117-81-7  
 123-31-9, uses and miscellaneous 128-37-0, uses and miscellaneous  
 149-30-4 150-76-5 603-48-5 1241-94-7 1680-21-3 1707-68-2  
 3524-68-3 7440-44-0, uses and miscellaneous 9011-14-7  
 15625-89-5 24620-40-4 25086-15-1 25135-39-1 25176-75-4  
 29777-36-4 34122-40-2 **38394-52-4** 39279-99-7  
 53802-03-2 58206-31-8  
 (photopolymerizable **photoimaging** compns. contg. nitro compd. photoinhibitor and, for pos. **image** prodn.)

- L37 ANSWER 14 OF 16 HCA COPYRIGHT 2004 ACS on STN  
 94:183456 Photopolymerizable **compositions** based on salt-forming polymers and polyhydroxy polyethers. Chambers, William J. (du Pont de Nemours, E. I., and Co., USA). U.S. US 4245031 19810113, 16 pp. Cont.-in-part of U.S. Ser. No. 892,296, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1979-76621 19790918.  
 GI For diagram(s), see printed CA Issue.  
 AB Photopolymerizable compns. contg. a polymer having a plurality of salt-forming groups, an ethylenically unsatd. compd. have .gtoreq.1 complementary salt-forming group, an ethylenically unsatd. diester polyhydroxy polyether of the structure I (R = H or Me; R1 = H or C1-4 alkyl group; n = 1-15; p = 0 or 1; and when p is 1, R2 is H or

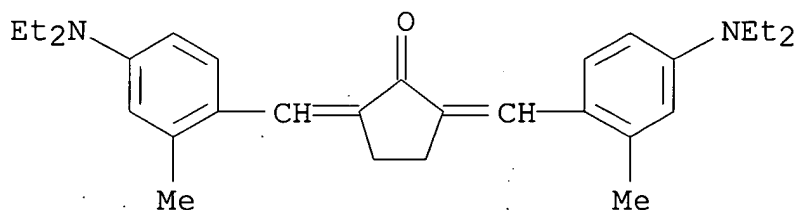
Me, and R3 is H, Me or Et), and a radiation-sensitive, free-radical generating system provide photopolymerizable elements which have outstanding photospeeds and are relatively insensitive to O. Thus, a mixt. of 2.5 parts polyamide resin (Versamid 125), 4.0 parts itaconic acid, 1.0 part Epocryl 12, 0.3 part benzophenone, 0.3 part 2-(o-chlorophenyl)-4,5-diphenylimidazolyl dimer, 0.25 part Michler's ketone and 0.05 part C.I. Solvent Red Dye #109 was dissolved in a mixt. of 20 parts methanol and 10 parts 2-butoxyethanol, spin-coated onto anodized Al supports (2000 rpm for 0.75 min), exposed for 1 s in air to a 275-W sunlamp held 7.5 in. away from the samples through a 21-step step wedge process transparency in which the transmittance of radiation between steps differs by a factor of  $\sqrt{.2}$ , developed for 10 s in H<sub>2</sub>O to show 3 steps, dampened with AGE (asphaltum gum arabic emulsion), dampened with fountain soln., and then inked with a std. black lithog. printing ink to give a good print after pressing directly on paper.

IT 38394-52-4

(photoimaging photopolymerizable compn. contg.,  
rapid-speed)

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-  
(9CI) (CA INDEX NAME)



IC G03C001-68

NCL 430288000

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST photopolymerizable compn printing plate; **photoimaging**  
photopolymerizable compn

IT **Photoimaging** compositions and processes  
(photopolymerizable, based on salt-forming polymers and  
polyhydroxy polyethers)

IT 57-11-4, uses and miscellaneous 84-51-5 90-94-8 97-65-4, uses  
and miscellaneous 100-43-6 106-10-5 119-61-9, uses and  
miscellaneous 123-31-9, uses and miscellaneous 149-30-4  
621-82-9, uses and miscellaneous 1707-68-2 2867-47-2 9002-89-5  
9011-13-6 9011-14-7 20357-25-9 22499-12-3 25014-15-7  
25086-15-1 25135-39-1 25232-41-1 29729-87-1 29777-36-4  
36425-15-7 37189-83-6 37300-17-7 37331-99-0 **38394-52-4**  
53814-24-7 70431-39-9

(photoimaging photopolymerizable compn. contg.,  
rapid-speed)

L37 ANSWER 15 OF 16 HCA COPYRIGHT 2004 ACS on STN

83:124092 Photopolymerizable **compositions** capable of yielding a reverse **image**. Lee, Shung-Yan L. (du Pont de Nemours, E. I., and Co., USA). U.S. US 3888672 19750610, 11 pp. Division of U.S. 3,782,951. (English). CODEN: USXXAM. APPLICATION: US 1973-394262 19730904.

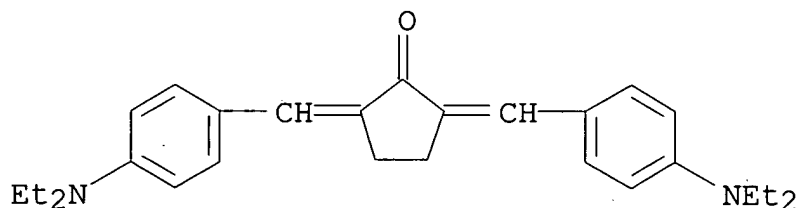
AB Pos.-working films, which are insensitive to high-intensity radiation and sensitive to low-intensity radiation, for use in the prepn. of printing plates and direct positives are obtained with coating compns. contg. an ethylenically unsatd. compd., an org. polymeric binder, a 2,4,5-triarylimidazolyl dimer that is sensitive to actinic radiation, and an electron-donor that is not sensitive to actinic radiation but reactive with the triarylimidazolyl dimer photoproduct. Thus, a coating compn. contg. polyethylene glycol dimethacrylate 4.14, methacrylic acid-methyl methacrylate polymer 5.06, 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetrakis(m-methoxyphenyl)biimidazole 0.736, electron donor Leucocrystal Violet 0.003, Solvent Red No. 109 0.0625 g, trichloroethylene 35 ml, and 2-ethoxyethanol 5.6 ml was coated on a poly(ethylene terephthalate) film, laminated with an Al plate, exposed from the clear side through a (2)1/2 step tablet using a 1000 W quartz I lamp at a distance of 36 in. for 3 min, the cover sheet removed, and the exposed layer developed with a soln. contg. sodium silicate 78 g, 2-n-butoxyethanol 60, Triton X 100 2, and water to 1 l. to give 7-18 steps **imaged** and 1-6 and 19-21 steps washed out (nonpolymerized).

IT **38394-53-5**

(photopolymerizable compns. contg., direct-pos., for printing plates)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03C

NCL 096035100

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic Processes)



IT 141-84-4 536-17-4 603-48-5 25086-15-1 25852-47-5  
29777-36-4 **38394-53-5**  
(photopolymerizable compns. contg., direct-pos., for printing plates)

L37 ANSWER 16 OF 16 HCA COPYRIGHT 2004 ACS on STN

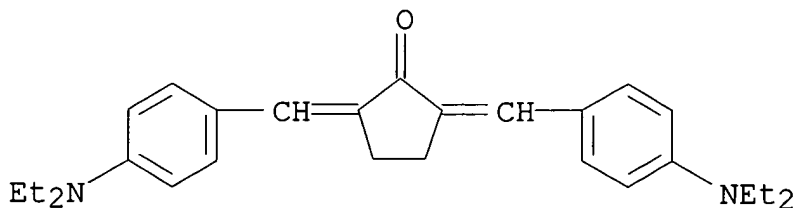
81:56664 Photopolymerizable **compositions** capable of yielding reverse **images**. Lee, Shung-Yan (du Pont de Nemours, E. I., and Co.). U.S. US 3782951 19740101, 8 pp. (English). CODEN: USXXAM. APPLICATION: US 1972-276381 19720731.

AB Pos.-working photopolymerizable compns. for use in prep. relief or planog. printing plates, direct copying films, or the like are composed of an unsatd. monomer, such as polyethylene glycol dimethacrylate (I) 30-70; a hexaarylbiimidazole, such as 2,2'-bis(o-chlorophenyl)-4,4',5,5'-tetrakis(m-methoxyphenyl)biimidazole (II) 49; a H- or a electron donor compd., such as Rhodanine (III) <0.4; and a polymeric binder, such as poly(methyl methacrylate) (IV) 53-58% by wt. The compns. are capable of yielding reverse photopolymer **images** since relatively intense radiation prevents polymn., while less intense radiation yields photopolymn. Thus, a compn. contg. trichloroethylene 10.8, I 1.2, II 0.1, III 0.01, IV 1.2, 2,5-bis(p-diethylaminobenzylidene)cyclopentanone 0.001 g, and MeOH 1 ml was coated on a poly(ethylene terephthalate) support, air dried for 30 min, a poly(ethylene terephthalate) film placed on the tacky surface, the element exposed through a .sqroot.-2 step tablet for 2.5 min to a W-I light at 54 in., the cover sheet removed, and the surface dusted with toner; steps 1-2 accepted toner; steps 3-5 rejected toner; steps 6-21 accepted toner.

IT **38394-53-5**  
(photopolymerizable compns. contg., for planog. or relief printing plates)

RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03C

NCL 096086000P

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST photopolymer compn pos working; polymer photo **imaging** pos  
 IT 109-16-0 141-84-4 536-17-4 603-48-5 3290-92-4 4074-88-8  
 6606-59-3 9011-14-7 13048-33-4 13048-34-5 15625-89-5  
 25086-15-1 25852-47-5 **38394-53-5**  
 (photopolymerizable compns. contg., for planog. or relief  
 printing plates)

=> d 138 1-14 cbib abs hitstr hitind

L38 ANSWER 1 OF 14 HCA COPYRIGHT 2004 ACS on STN

136:45708 **Image**-formation material and infrared absorber.

Nakamura, Ippei (Fuji Photo Film Co., Ltd., Japan). Eur. Pat. Appl.  
 EP 1162078 A2 20011212, 41 pp. DESIGNATED STATES: R: AT, BE, CH,  
 DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV,  
 FI, RO. (English). CODEN: EPXXDW. APPLICATION: EP 2001-112937  
 20010606. PRIORITY: JP 2000-169180 20000606.

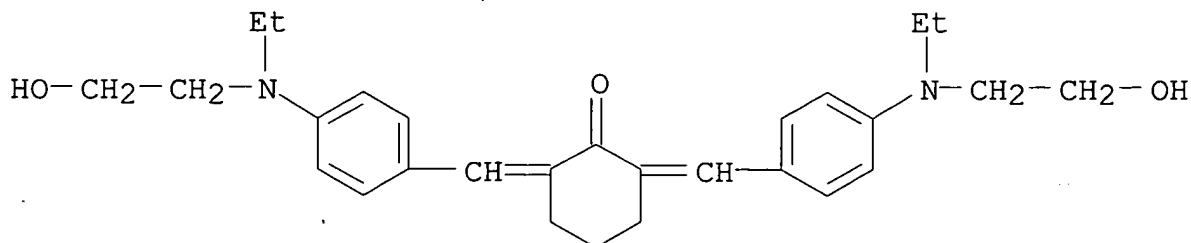
AB Heat mode-applicable **image**-formation materials are  
 described which comprise a substrate carrying thereon an  
**image**-formation layer which contains an IR absorbing agent  
 which has .gtoreq.1 surface orientation group in the mol. and for  
 which the soly. of the layer in an alk. aq. soln. is changed by  
 action of radiation in the near-IR range. IR absorbing agents are  
 also described which comprise, in a mol. thereof, a fluorine-contg.  
 substituent which have .gtoreq.5 fluorine atoms, or a polymethine  
 chain of .gtoreq.5 carbon atoms and an alkyl group of .gtoreq.8  
 carbon atoms, the alkyl group being connected to the polymethine  
 chain via any of nitrogen, oxygen and sulfur. Planog. printing  
 plates including the heat mode-applicable **image**-formation  
 materials are also described.

IT **379671-80-4P 379671-81-5P**

(IR-sensitive **image**-forming materials and IR absorbers)

RN 379671-80-4 HCA

CN Cyclohexanone, 2,6-bis[[4-[ethyl(2-hydroxyethyl)amino]phenyl]methyle  
 ne]- (9CI) (CA INDEX NAME)

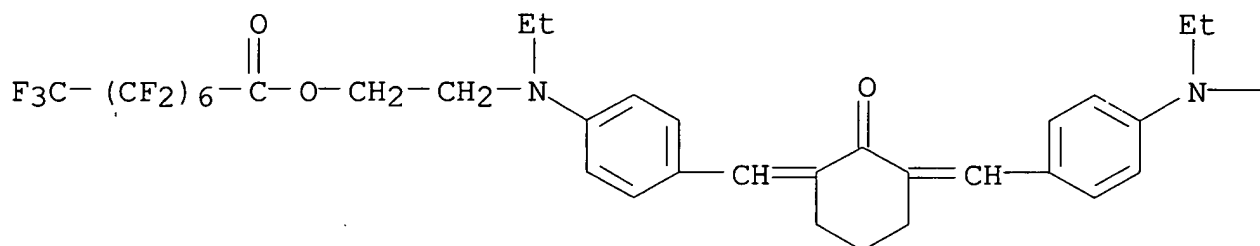


RN 379671-81-5 HCA

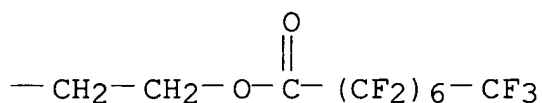
CN Octanoic acid, pentadecafluoro-, (2-oxo-1,3-  
 cyclohexanediyldiene)bis[methyldiyne-4,1-phenylene(ethylimino)-2,1-

ethanediyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



- IC ICM B41M005-40
- CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 25, 27, 28
- ST thermal **image** forming material IR absorber; planog printing plate **image** forming material IR absorber; IR sensitive **image** forming material IR absorber
- IT Optical materials  
(IR absorbers; IR-sensitive **image**-forming materials and IR absorbers)
- IT **Photoimaging** materials  
Recording materials  
(IR-sensitive **image**-forming materials and IR absorbers)
- IT IR materials  
(absorbers; IR-sensitive **image**-forming materials and IR absorbers)
- IT Phenolic resins, uses  
(novolak; IR-sensitive **image**-forming materials and IR absorbers)
- IT Lithographic plates  
(planog.; IR-sensitive **image**-forming materials and IR absorbers)
- IT 75-36-5, Acetyl chloride 92-50-2, 2-(N-Ethylanilino)ethanol  
98-59-9, p-Toluenesulfonyl chloride 108-24-7, Acetic anhydride  
108-94-1, Cyclohexanone, reactions 121-44-8, Triethylamine, reactions  
124-41-4, Sodium methoxide 335-64-8, Perfluorooctanoyl

chloride 647-42-7 1640-39-7, 2,3,3-Trimethylindolenine  
 2885-00-9, Stearylmercaptan 34451-26-8, 1H,1H,2H,2H-  
 Perfluorooctanethiol 70446-42-3 205744-92-9

(IR-sensitive **image**-forming materials and IR absorbers)

IT 38954-40-4P 51740-38-6P 100609-71-0P **379671-80-4P**  
**379671-81-5P**

(IR-sensitive **image**-forming materials and IR absorbers)

IT 379671-75-7P 379671-77-9P 379671-79-1P 379671-83-7P  
 379671-85-9P

(IR-sensitive **image**-forming materials and IR absorbers)

IT 24979-70-2, Poly p-hydroxystyrene 90216-38-9, Allyl  
 methacrylatemethacrylic acid copolymer 162846-57-3 287925-54-6  
 (IR-sensitive **image**-forming materials and IR absorbers)

L38 ANSWER 2 OF 14 HCA COPYRIGHT 2004 ACS on STN

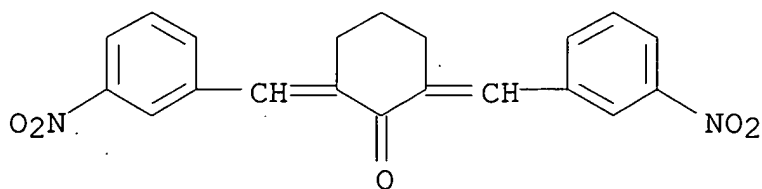
131:80668 Main-chain photosensitive polyamic acids using alkaline  
 aqueous solution as developer. Hou, Haoqing; Yang, Zhenghua; Ding,  
 Mengxian (Changchun Institute of Applied Chemistry, Chinese Academy  
 of Sciences, Changchun, 130022, Peop. Rep. China). Polymer  
 International, 48(5), 421-425 (English) 1999. CODEN: PLYIEI. ISSN:  
 0959-8103. Publisher: John Wiley & Sons Ltd..

AB In order to develop photosensitive polyimides (PSPIs) **imaged**  
 in alk. aq. soln., a photosensitive diamine and relevant polymer  
 contg. conjugated double bonds in the main chain have been  
 synthesized. The photosensitive characteristics and thermal  
 stability of the polymers were investigated. These polymers possess  
 good thermal stability and sensitivity to UV irradiation, and could be  
 used to form a PSPI resist using alk. aq. soln. as developer.

IT **18977-36-1P 127249-00-7P**  
 (prepd. as monomer for study on main-chain photosensitive  
 polyamic acid using alk. aq. soln. as developer)

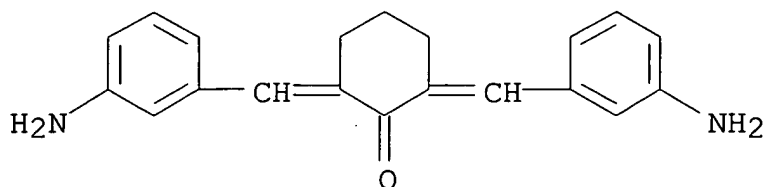
RN 18977-36-1 HCA

CN Cyclohexanone, 2,6-bis[(3-nitrophenyl)methylene]- (9CI) (CA INDEX  
 NAME)



RN 127249-00-7 HCA

CN Cyclohexanone, 2,6-bis[(3-aminophenyl)methylene]- (9CI) (CA INDEX  
 NAME)



IT 141596-29-4P 229022-17-7P 229022-18-8P  
229022-19-9P

(prepd. for study on main-chain photosensitive polyamic acid  
using alk. aq. soln. as developer)

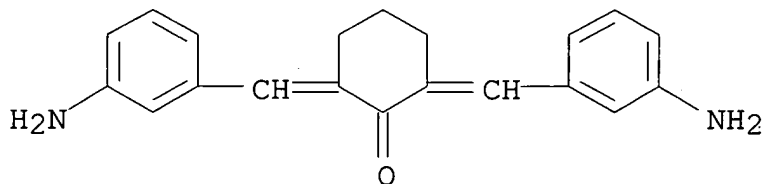
RN 141596-29-4 HCA

CN 1,3-Isobenzofurandione, 5,5'-carbonylbis-, polymer with  
2,6-bis[(3-aminophenyl)methylene]cyclohexanone (9CI) (CA INDEX  
NAME)

CM 1

CRN 127249-00-7

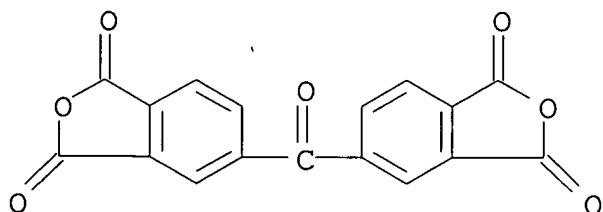
CMF C20 H20 N2 O



CM 2

CRN 2421-28-5

CMF C17 H6 O7



RN 229022-17-7 HCA

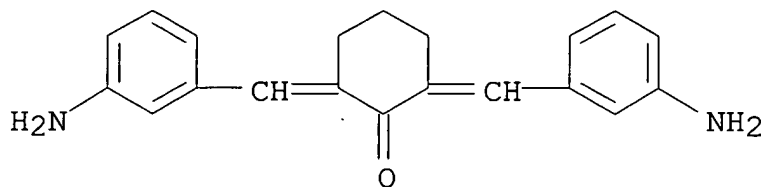
CN 1,3-Isobenzofurandione, 5,5'-[1,4-phenylenebis(oxy)]bis-, polymer  
with 2,6-bis[(3-aminophenyl)methylene]cyclohexanone (9CI) (CA INDEX

NAME)

CM 1

CRN 127249-00-7

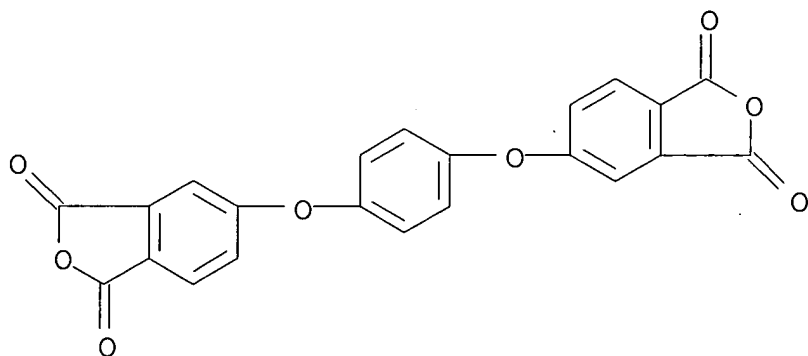
CMF C20 H20 N2 O



CM 2

CRN 17828-53-4

CMF C22 H10 O8



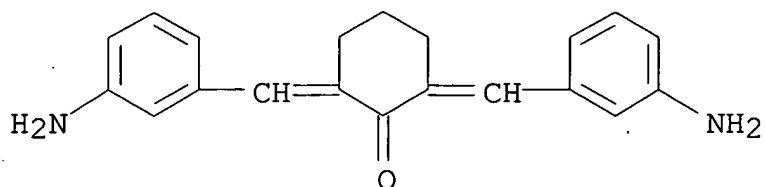
RN 229022-18-8 HCA

CN [5,5'-Biisobenzofuran]-1,1',3,3'-tetrone, polymer with  
2,6-bis[(3-aminophenyl)methylene]cyclohexanone (9CI) (CA INDEX  
NAME)

CM 1

CRN 127249-00-7

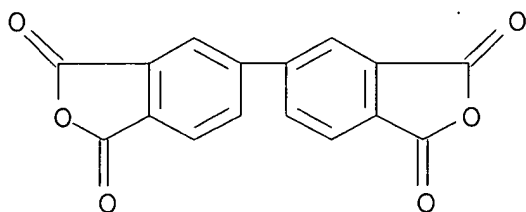
CMF C20 H20 N2 O



CM 2

CRN 2420-87-3

CMF C16 H6 O6



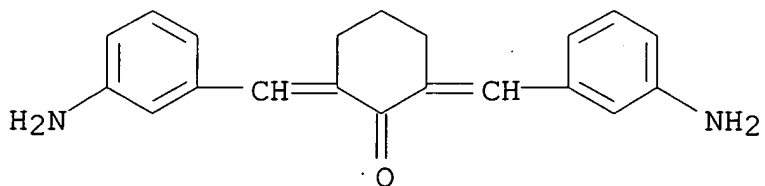
RN 229022-19-9 HCA

CN 1,3-Isobenzofurandione, 5,5'-thiobis-, polymer with  
2,6-bis[(3-aminophenyl)methylene]cyclohexanone (9CI) (CA INDEX  
NAME)

CM 1

CRN 127249-00-7

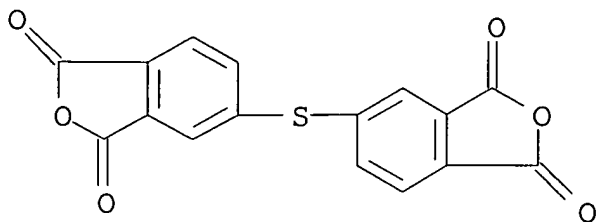
CMF C20 H20 N2 O



CM 2

CRN 25884-43-9

CMF C16 H6 O6 S



- CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT Lithography  
**Photoimaging materials**  
 Photoresists  
 Thermal stability  
 (main-chain photosensitive polyamic acid using alk. aq. soln. as developer)
- IT **18977-36-1P 127249-00-7P**  
 (prepd. as monomer for study on main-chain photosensitive polyamic acid using alk. aq. soln. as developer)
- IT **141596-29-4P 229022-17-7P 229022-18-8P**  
**229022-19-9P 229173-13-1P 229173-20-0P 229173-28-8P**  
**229173-29-9P**  
 (prepd. for study on main-chain photosensitive polyamic acid using alk. aq. soln. as developer)
- L38 ANSWER 3 OF 14 HCA COPYRIGHT 2004 ACS on STN
- 128:161208 How to determine reliable intensities using film methods?. Kothe, H.; Kolb, U. (Institut fur Physikalische Chemie, Johannes-Gutenberg Universitat Mainz, Mainz, 55099, Germany). NATO ASI Series, Series E: Applied Sciences, 347(Electron Crystallography), 383-387 (English) 1997. CODEN: NAESDI. ISSN: 0168-132X. Publisher: Kluwer Academic Publishers.
- AB The basis of a successful structure anal. is to obtain reliable intensities. In the field of electron crystallog. intensity data can be collected online with a CCD-camera and off-line using **image** plates or film material. Whereas **image** plates are read out with a laser, film material is analyzed via a densitometer or digitized using a CCD-camera or a scanner. Both, CCD-camera and scanner, uses CCD-technol. and both systems can be used for intensity evaluation. To obtain reliable intensities from film media it is important to define and calibrate the exptl. conditions, the digitization process and the evaluation of intensity data exactly. A high optical resoln. and a high optical range are necessary for a good evaluation. For comparable CCD-chips the results obtained are similar. Due to the fast development in computer technol., the systems used here are no longer comparable to



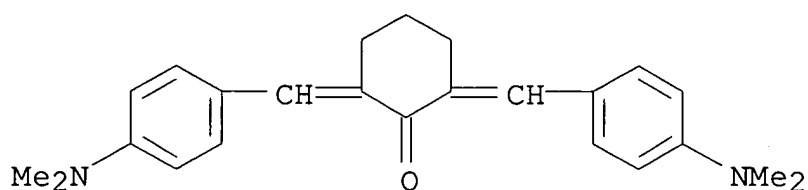
the high end products of today with 16 bit absorbance and 3000 by 3000 dpi optical resoln. but one can expect that both systems lead to similar results. Scanners are more easy to handle and so the authors prefer a high end transmission-scanner for intensity evaluation in the future.

IT 18977-38-3

(detn. of reliable intensities using film methods for crystal structure detn. of)

RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



CC 75-10 (Crystallography and Liquid Crystals)

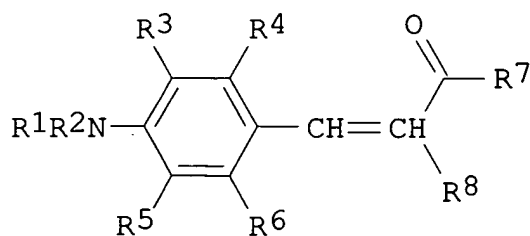
IT 18977-38-3

(detn. of reliable intensities using film methods for crystal structure detn. of)

L38 ANSWER 4 OF 14 HCA COPYRIGHT 2004 ACS on STN

123:156533 High resolution radiographic recording element.. Beutel, Jacob; Guy, Joseph T.; Fabricius, Dietrich Max; Issler, Sandra Laurine (du Pont de Nemours, E. I., and Co., USA). Eur. Pat. Appl. EP 650089 A1 19950426, 19 pp. DESIGNATED STATES: R: BE, DE, FR, GB, IT. (English). CODEN: EPXXDW. APPLICATION: EP 1994-115125 19940926. PRIORITY: US 1993-138307 19931020.

GI



I

AB An UV emitting x-ray intensifying screen comprises a phosphor and an

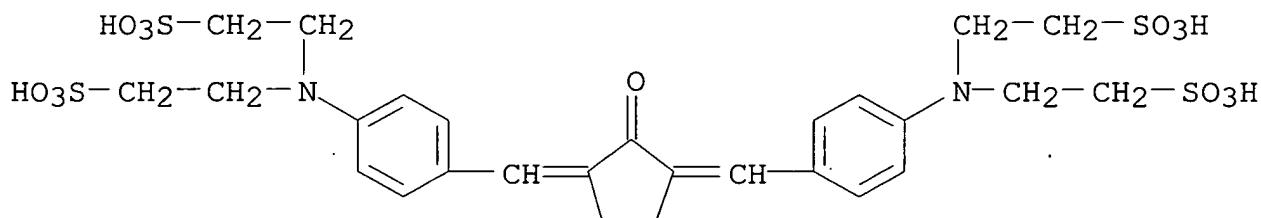
acutance dye defined by I [R1 and R2 = H, alkyl, and aryl; R3, R4, R5 and R6 = H, alkyl, halogen, alkoxy, hydroxy; R7 = alkyl, aryl, -OR9, -NR10R11 wherein R9, R10 and R11 independently = H, alkyl, and aryl; R8 is alkyl, aryl, -CN, -COR12 wherein R12 is alkyl, aryl, -COOR13 wherein R13 is alkyl, and aryl; R7 and R8 can be taken together to form a 5 or 6 member ring or a substituted 5 or 6 member ring]. A radiog. element contg. the screen has high resoln.

IT 167093-98-3P

(acutance dye for high resoln. radiog. recording element.)

RN 167093-98-3 HCA

CN Ethanesulfonic acid, 2,2',2'',2'''-[(2-oxo-1,3-cyclopentanediyldiene)bis(methylidyne-4,1-phenylenenitrilo)]tetrakis-, tetrasodium salt (9CI) (CA INDEX NAME)



●4 Na

IC ICM G03C005-17

ICS C09K011-86; C09B023-04

CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 41

ST radiog x ray intensifying screen; acutance dye **image** luminescent screen

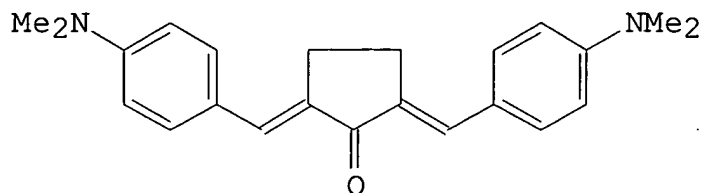
IT 1564-29-0P 57270-81-2P 86872-78-8P 117573-89-4P 167093-95-0P  
167093-96-1P 167093-97-2P **167093-98-3P**

(acutance dye for high resoln. radiog. recording element.)

L38 ANSWER 5 OF 14 HCA COPYRIGHT 2004 ACS on STN

115:102924 Recording material containing unsaturated ketone and electron acceptor. Satomura, Masato; Takashima, Masanobu; Sano, Masajiro; Yanagihara, Naoto (Fuji Photo Film Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03049982 A2 19910304 Heisei, 4 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1989-186249 19890719.

GI



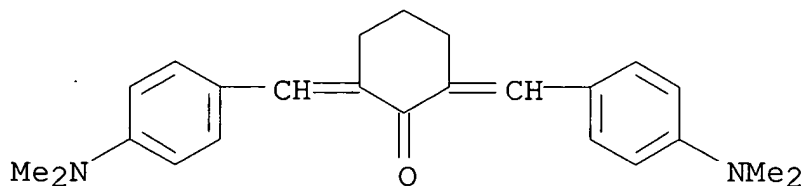
AB The material uses color formation in contacting an electron acceptor with an unsatd. ketone obtained by condensation with substituted amino-contg. aldehyde and ketone. The material is used in pressure-sensitive recording and thermal recording. A material contg. unsatd. ketone condensed with melamine formaldehyde and I and Zn 3,5-bismethylbenzylsalicylate gave a clear and hard **image**

IT 18977-38-3 19226-99-4 70552-83-9

(coloring agent, pressure-sensitive recording material contg.)

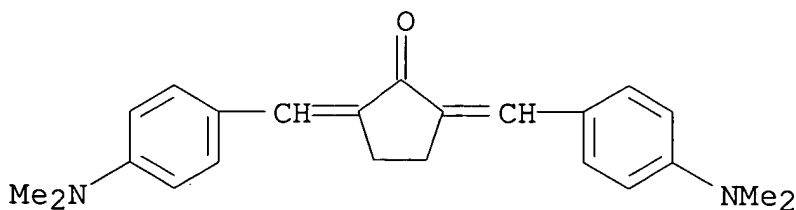
RN 18977-38-3 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



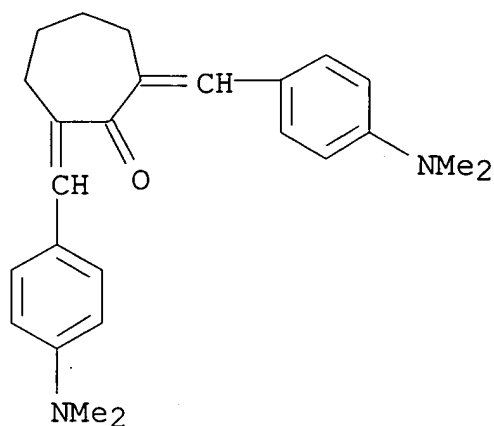
RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 70552-83-9 HCA

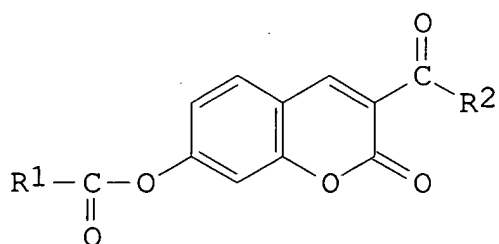
CN Cycloheptanone, 2,7-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM B41M005-124  
 CC 74-11 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT 18977-38-3 19226-99-4 70552-83-9  
 (coloring agent, pressure-sensitive recording material contg.)

L38 ANSWER 6 OF 14 HCA COPYRIGHT 2004 ACS on STN  
 113:106439 Multicolor **photoimaging** material. Okuma, Norio  
 (Canon K. K., Japan). Jpn. Kokai Tokkyo Koho JP 02029651 A2  
 19900131 Heisei, 25 pp. (Japanese). CODEN: JKXXAF. APPLICATION:  
 JP 1988-178210 19880719.

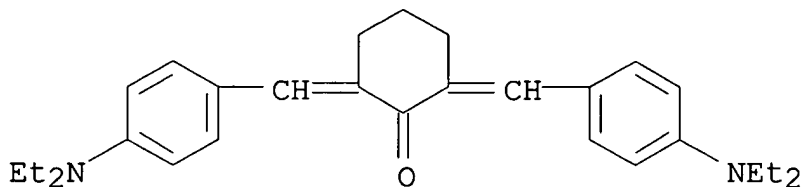
GI



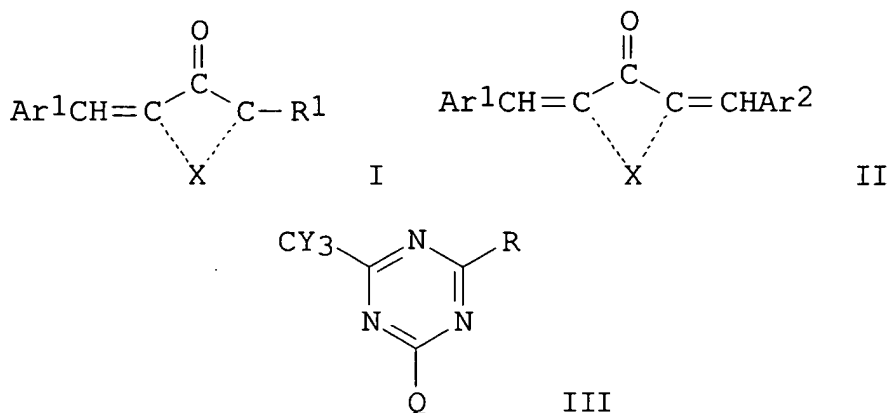
I

AB The title **photoimaging** material utilizes a recording layer contg. (1) a polymerizable component based on a monomer contg. a double bond(s) and the photopolymn. initiator (I) [R1 = C1-6 alkyl, phenyl; R2 = phenyl], (2) a polymerizable component based on a monomer with a double bond(s) and a photopolymn. initiator with absorption max. at 360-430 nm, and (3) a polymerizable component based on a monomer with a double bond(s) and a photopolymn. initiator with an absorption max. at .gtoreq.430 nm.

IT 80601-02-1  
 (photopolymn. initiator, multicolor **imaging** system  
 using)  
 RN 80601-02-1 HCA  
 CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



IC ICM G03F007-031  
 ICS G03F007-004  
 CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 ST photopolymn multicolor **imaging** material; initiator  
 photopolymn **imaging** system; coumarin photopolymn  
 initiator; **photoimaging** compn  
 IT **Photoimaging** compositions and processes  
 (multicolor, photopolymn. system for)  
 IT Polymerization catalysts  
 (photochem., for photopolymn. **imaging** system)  
 IT 75761-09-0 128861-57-4 128882-37-1  
 (photopolymn. **imaging** system using)  
 IT 86-39-5 5495-84-1 6542-67-2 10287-53-3 10373-78-1  
 61445-93-0 63226-13-1 64267-17-0 77819-83-1 77819-97-7  
 80601-02-1 82799-44-8 83179-56-0 120217-07-4  
 128861-58-5 128861-59-6 128861-60-9 128861-61-0 128861-62-1  
 128861-63-2 128861-64-3 128861-65-4 128861-66-5  
 (photopolymn. initiator, multicolor **imaging** system  
 using)  
 L38 ANSWER 7 OF 14 HCA COPYRIGHT 2004 ACS on STN  
 112:100741 Photopolymerization initiator and thermal-transfer recording  
 medium. Okuma, Norio (Canon K. K., Japan; Sanyo Chemical Industries  
 Ltd.). Jpn. Kokai Tokkyo Koho JP 01174502 A2 19890711 Heisei, 18  
 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-335731  
 19871228.  
 GI



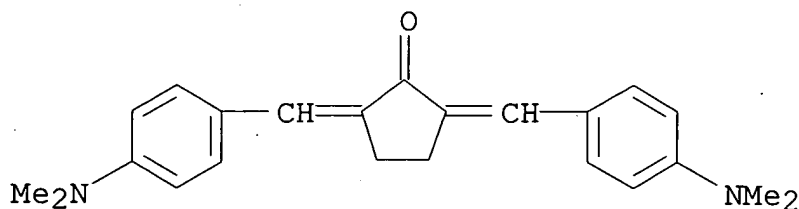
AB ~ The photopolymn. initiator is composed of I or II [Ar<sup>1</sup>, Ar<sup>2</sup> = arom. ring, heterocyclic ring; R<sup>1</sup> = H, C<sub>1</sub>-10 alkyl, alkenyl, alkoxy, or alkylthio, C<sub>6</sub>-12 aryl, aryloxy, or heterocyclic ring with no. of C and non-C atoms to be 5-15; X = non-metallic atom for forming a ring], and III [Y = halogen; R = alkyl, aryl, alkenyl; Q = CY<sub>3</sub>, NH<sub>2</sub>, etc.]. The thermal-transfer recording layer is composed of the photoinitiator, and monomer, oligomer, or polymer with unsatd. double bond or these mixt. An **image**-forming material may be encapsulated. This initiator is esp. useful in one-shot color recording.

IT 19226-99-4 80601-02-1 125407-16-1  
125407-17-2

(photopolymn. initiator compn. contg. triazine deriv. and)

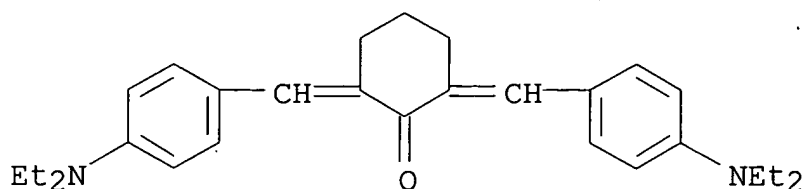
RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



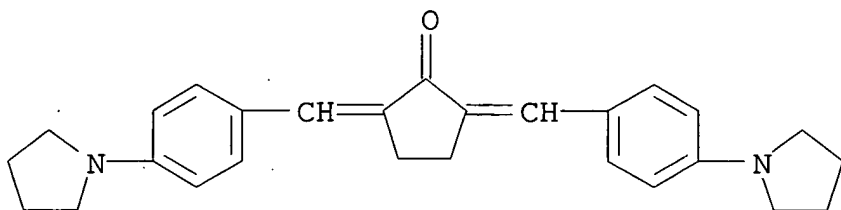
RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



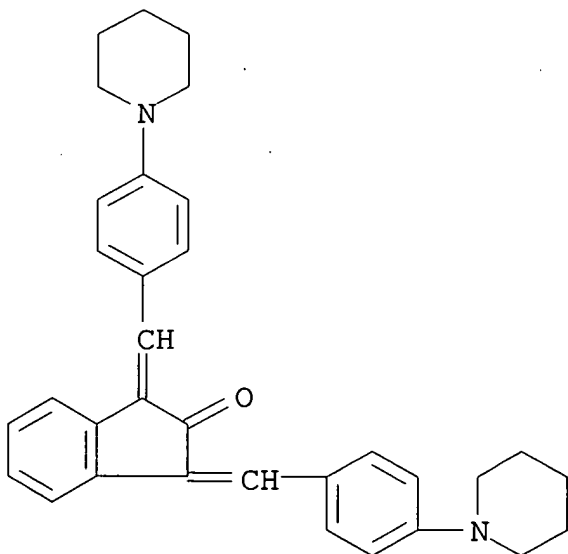
RN 125407-16-1 HCA

CN Cyclopentanone, 2,5-bis[[4-(1-pyrrolidinyl)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 125407-17-2 HCA

CN 2H-Inden-2-one, 1,3-dihydro-1,3-bis[[4-(1-piperidinyl)phenyl]methylene]- (9CI) (CA INDEX NAME)



IC ICM C08F002-50

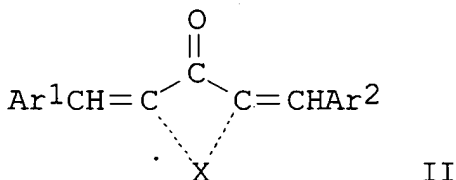
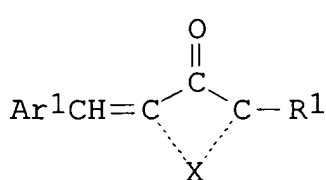
ICS G03C001-00; G03C001-68

CC 42-2 (Coatings, Inks, and Related Products)  
Section cross-reference(s): 35

IT 5447-53-0 **19226-99-4** 49629-37-0 **80601-02-1**  
 125407-04-7 125407-05-8 125407-06-9 125407-07-0 125407-08-1  
 125407-09-2 125407-10-5 125407-11-6 125407-12-7 125407-13-8  
 125407-14-9 125407-15-0 **125407-16-1 125407-17-2**  
 125407-18-3 126140-23-6  
 (photopolymn. initiator compn. contg. triazine deriv. and)

L38 ANSWER 8 OF 14 HCA COPYRIGHT 2004 ACS on STN  
 112:100740 Photopolymerization initiator and thermal-transfer recording medium. Okuma, Norio (Canon K. K., Japan; Sanyo Chemical Industries Ltd.). Jpn. Kokai Tokkyo Koho JP 01174503 A2 19890711 Heisei, 17 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1987-335732 19871228.

GI

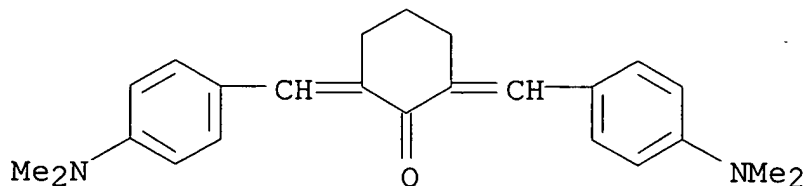


AB The title photopolymn. initiator is composed of .alpha.-diketone deriv., and I or II [Ar1, Ar2 arom. ring, heterocyclic ring; R1 = H, C1-10 alkyl, alkenyl, alkoxy, or alkylthio, C6-12 aryl, aryloxy, or heterocyclic ring with no. of C and non-C atoms to be 5-15; X = non-metallic atom for forming a ring]. The thermal-transfer recording layer is composed of the photoinitiator, and monomer, oligomer or polymer with unsatd. double bond or these mixt. An **image**-forming material may be encapsulated. The initiator is esp. useful in one-shot color recording.

IT **18977-38-3 21889-12-3 38394-53-5**  
**125407-22-9 125407-24-1 125407-25-2**  
 (photopolymn. initiator compn. contg. .alpha.-diketone and)

RN 18977-38-3 HCA

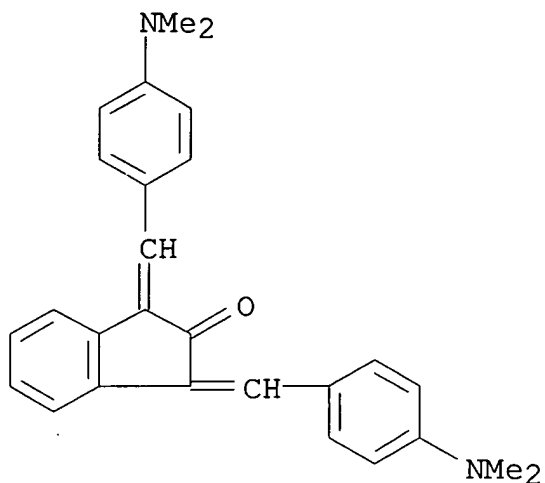
CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)





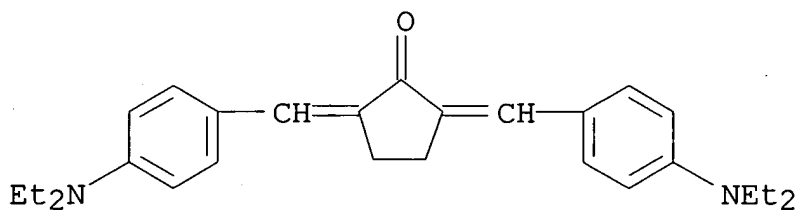
RN 21889-12-3 HCA

CN 2H-Inden-2-one, 1,3-bis[[4-(dimethylamino)phenyl]methylene]-1,3-dihydro- (9CI) (CA INDEX NAME)



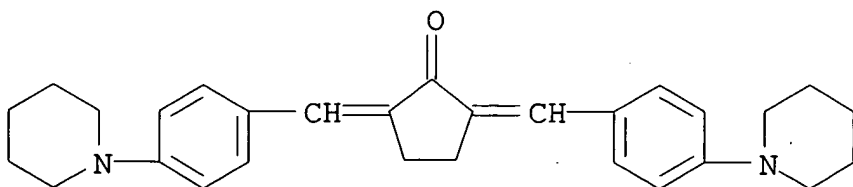
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI) (CA INDEX NAME)



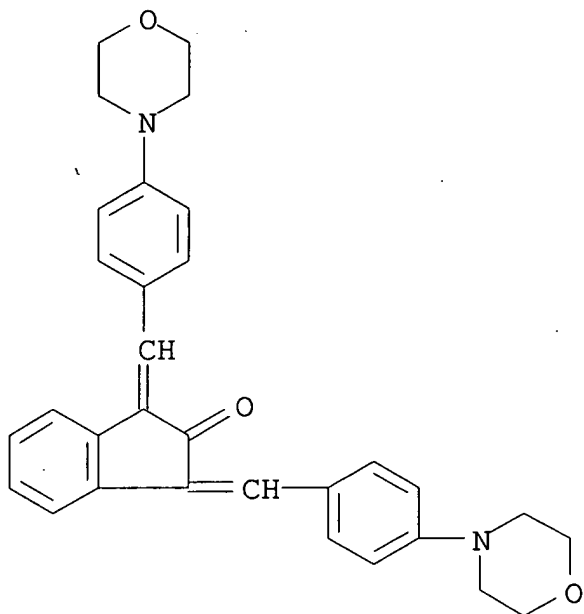
RN 125407-22-9 HCA

CN Cyclopentanone, 2,5-bis[[4-(1-piperidiny)phenyl]methylene]- (9CI) (CA INDEX NAME)



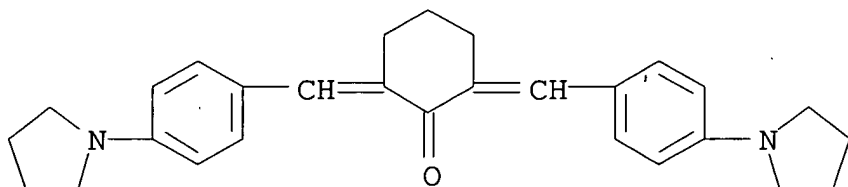
RN 125407-24-1 HCA

CN 2H-Inden-2-one, 1,3-dihydro-1,3-bis[[4-(4-morpholinyl)phenyl]methylene]- (9CI) (CA INDEX NAME)



RN 125407-25-2 HCA

CN Cyclohexanone, 2,6-bis[[4-(1-pyrrolidinyl)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM C08F002-50

ICS G03C001-00; G03C001-68

CC 42-2 (Coatings, Inks, and Related Products)

Section cross-reference(s): 35

IT 5447-53-0 6275-32-7 **18977-38-3** **21889-12-3**

**38394-53-5** 49629-37-0 87384-01-8 125407-04-7

125407-20-7 125407-21-8 **125407-22-9** 125407-23-0

**125407-24-1** **125407-25-2**

(photopolymn. initiator compn. contg. .alpha.-diketone and)

L38 ANSWER 9 OF 14 HCA COPYRIGHT 2004 ACS on STN

102:140898 Perester compounds. Wade, John Robert; Potts, Rodney Martin; Pratt, Michael John (Vickers PLC, UK). Eur. Pat. Appl. EP 125875 A2 19841121, 49 pp. DESIGNATED STATES: R: AT, BE, CH, DE, FR, GB, IT, LI, LU, NL, SE. (English). CODEN: EPXXDW. APPLICATION: EP

1984-303110 19840509. PRIORITY: GB 1983-12721 19830509.

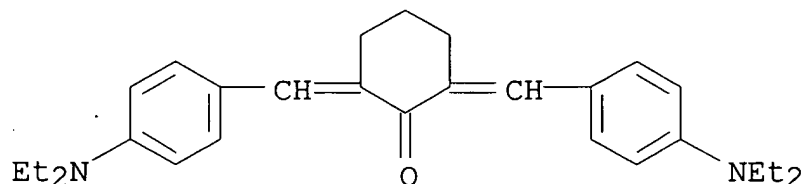
AB A photopolymeric compn. suitable for lithog. plate fabrication contains a perester compd. suitable to cause polymn. of an addn. polymerizable compd. on exposure to radiation. Thus, an Al support was coated with a compn. contg. the dimethacrylate ester of the diglycidyl ether of Bisphenol A 3, vinyl acetate-crotonic acid copolymer 1, 4-(2',4',6'-trimethylbenzoyl)-tert-Bu perbenzoate 0.15, and Et Michler's ketone 0.15 wt. parts, dried, overcoated with poly(vinyl alc.), imagewise exposed, and developed with an aq. soln. contg. Na propanoate, Na benzoate, and a surfactant to give a lithog. plate.

IT 80601-02-1

(photopolymer compn. for lithog. plate fabrication contg., perester photoinitiators for)

RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC C07C179-18; C07C179-20; C07D277-64; C07D277-84; C07D335-16;  
C07D209-22; C07D293-12; C07D215-14; C07D417-06; C07D455-04

ICA G03C001-68

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT **Photoimaging** compositions and processes

(photopolymer, perester photoinitiators for)

IT 90-93-7 91-44-1 905-96-4 1042-84-8 1054-00-8 1565-94-2

5950-99-2 14934-37-3 25609-89-6 63226-13-1 71616-78-9

79586-49-5 80601-02-1 84170-75-2 95205-12-2

(photopolymer compn. for lithog. plate fabrication contg., perester photoinitiators for)

L38 ANSWER 10 OF 14 HCA COPYRIGHT 2004 ACS on STN

96:172183 Multilayer photosensitive solvent-processable litho element.

Fan, Roxy N. (du Pont de Nemours, E. I., and Co. , USA). U.S. US 4311784 A 19820119, 9 pp. Cont. of U.S. Ser. No. 904,257, abandoned. (English). CODEN: USXXAM. APPLICATION: US 1980-142023 19800421. PRIORITY: US 1978-904257 19780509.

AB A photosensitive dot-etchable lithog. element comprises a support, a non-photosensitive solvent-sol. contiguous layer having an optical d. .gtoreq.3 in the visible region and a max. thickness of 0.015 mm,

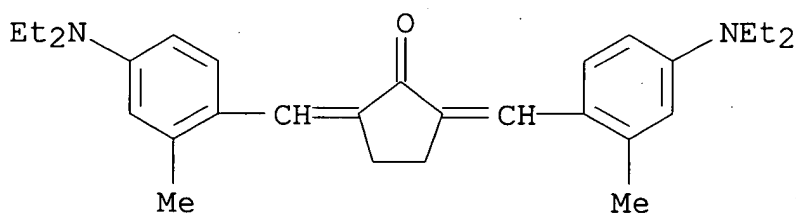
and a solvent-processable photosensitive layer. Thus, an untreated, unsubbed 0.001 in. poly(ethylene terephthalate) support was coated with a compn. contg. CH<sub>2</sub>Cl<sub>2</sub> 1375, MeOH 130, trichloroethylene 2795, methacrylic acid-Me methacrylate copolymer 369, poly(ethylene oxide) 2.5, tetraethylene glycol dimethacrylate 141.5, 2,2'-bis(2-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole 14.75, 2-(stilbyl-4'')-(naphtho-1',2',4,5)-1,2,3-triazol-2''-sulfonic acid Ph ester 3.85, 7-(4'-chloro-6'-diethylamino-1',3',5'-triazine-2'-yl)amino-3-phenylcoumarin 17.15, 2,2'-dihydroxy-4-methoxybenzophenone 1.35, 2-mercaptobenzothiazole 9.85 g to give a 0.0025 mm dry layer. A resin subbed 0.005 in. poly(ethylene terephthalate) support was coated with a compn. contg. CH<sub>2</sub>Cl<sub>2</sub> 2733, 2-ethoxyethanol 229, maleic anhydride-styrene copolymer partially esterified with iso-PrOH 123, poly(ethylene oxide) 1.2, triethylene glycol dimethacrylate 82, Lacer Wax 144, FC-430 0.25, 2,2'-methylenebis(4-ethyl-6-tert-butylphenol) 0.06, carbon black 180 g to give a 0.008 mm dry layer having an optical d. of 3.15. The above 2 elements were laminated at 50.degree. and imagewise exposed 30 s with a 4 kW pulsed Xe arc. The 0.001 in. thick poly(ethylene terephthalate) was stripped off and the **imaged** photopolymer and the opaque contiguous layer was developed for 120 s (20.degree.) by immersion into a soln. contg. H<sub>2</sub>O 750, Bu cellosolve 60, 10% aq. octyl phenoxy polyethoxyethanol 2 mL, sodium silicate 66.5 g, H<sub>2</sub>O to 1 L, brushed to complete the development, rinsed and dried to give a dot-etched contact litho neg. of the original contact transparency.

IT **38394-52-4**

(photopolymerizable compn. contg., for dot-etchable contact litho negatives and positives fabrication)

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-(9CI) (CA INDEX NAME)



IC G03C001-78

NCL 430271000

CC 74-6 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 109-17-1 131-53-3 149-30-4 1707-68-2 3290-92-4 3524-62-7

5516-22-3 6994-51-0 9011-14-7 25086-15-1 25086-89-9

25135-39-1 25322-68-3 25852-47-5 **38394-52-4**

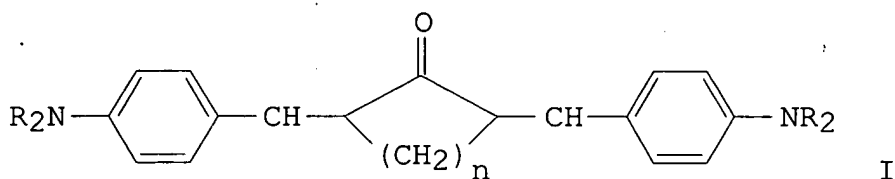
55149-84-3

(photopolymerizable compn. contg., for dot-etchable contact litho negatives and positives fabrication)

L38 ANSWER 11 OF 14 HCA COPYRIGHT 2004 ACS on STN

96:60893 Optical recording product containing an .alpha..alpha.'-bis(dialkylaminobenzylidene) ketone dye. Specht, Donald Paul; Thomas, Harold Todd (Eastman Kodak Co., USA). Fr. Demande FR 2476546 A1 19810828, 10 pp. (French). CODEN: FRXXBL. APPLICATION: FR 1981-3586 19810224. PRIORITY: US 1980-124382 19800225.

GI



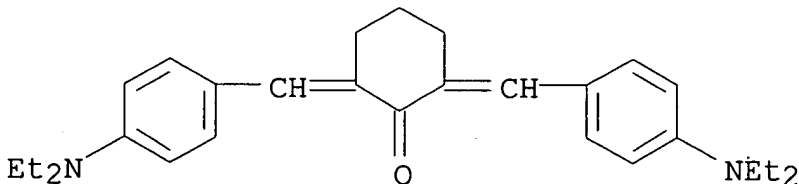
AB A product for video disk recording using a high energy beam of 488 nm comprises a reflective support and an amorphous layer contg. a binder, such as cellulose nitrate, and the colorant I (R = C1-6 alkyl and n = 0-5). Thus, 2,5-bis(4-diethylaminobenzylidene)cyclohexanone was prepd. and dissolved (1 g) in cyclohexanone 60 g contg. cellulose nitrate 1 g, and this compn. was coated on a reflective support and dried to give a recording layer.

IT 80601-02-1

(colorant, in video disk recording material)

RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



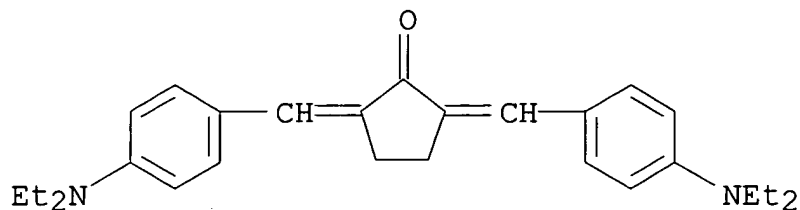
IT 38394-53-5p

(prepn. and use of, as colorant in video disk recording material)

RN 38394-53-5 HCA

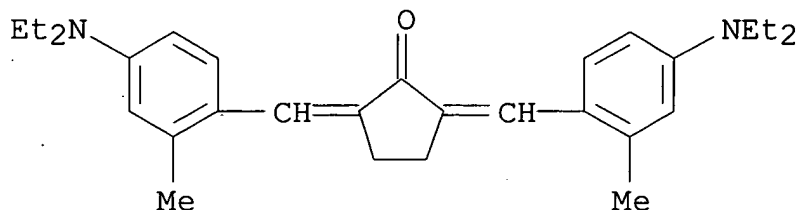
CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)

(CA INDEX NAME)



- IC B41M005-24  
 CC 74-12 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
 IT Optical **imaging** devices  
 Recording materials  
 (video-disk, ketone dye colorant for)  
 IT 61445-93-0 **80601-02-1**  
 (colorant, in video disk recording material)  
 IT **38394-53-5P**  
 (prepn. and use of, as colorant in video disk recording material)
- L38 ANSWER 12 OF 14 HCA COPYRIGHT 2004 ACS on STN  
 92:119716 Bis(substituted amino)sulfides as reversible inhibitor sources for photopolymerization. Donald, Dennis S.; Sysak, Peter K. (du Pont de Nemours, E. I., and Co., USA). U.S. US 4168981 19790925, 8 pp. (English). CODEN: USXXAM. APPLICATION: US 1977-787603 19770414.
- AB A photopolymerizable compn. useful in prepg. **images**, lithog. plates, and resist patterns is comprised of an ethylenically unsatd. polymerizable monomer, a light-sensitive free radical-producing system, and a bis(substituted amino) monosulfide or a bis(substituted amino) polysulfide stabilizer. The use of monosulfide or polysulfide inhibits polymn. of the compn. at elevated temp. without affecting the room temp. photopolymn. Thus, a stock soln. was prepd. from trimethylolpropane trimethacrylate 60 mL, 2-mercaptobenzothiazole 3.0 g, 2-(o-chlorophenyl)-4,5-bis(m-methoxyphenyl)imidazole dimer (I) 1.5 g, and PhCl 240 mL. Bis(piperidine) trisulfide 5 mg was added to the stock soln. 10 mL, the soln. bubbled with N<sub>2</sub>, and heated at 120.degree. in an oil bath for 4 min to gel vs. 1.5 min for a I-free control. Another sample was exposed to a sunlamp at room temp. for 1.9 min to gel vs. 2.0 min for a I-free control, indicating that the presence of I had no significant effect on the photopolymn. rate.
- IT **38394-52-4**  
 (photopolymerizable compns. contg. ethylenically unsatd. compd., free radical-forming compd. and, bis(substituted amino) monosulfides and polysulfides as thermal polymn. inhibitors for)  
 RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-  
(9CI) (CA INDEX NAME)



IC G03C001-68; C08F008-18; C08F002-46

NCL 096115000P

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic Processes)

IT Lithographic plates

**Photoimaging** compositions and processes

(photopolymerizable compns. contg. bis(substituted amino) monosulfide or polysulfide thermal polymn. inhibitor for)

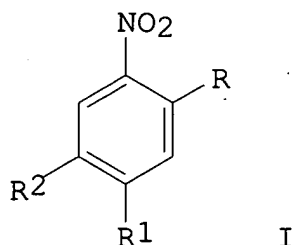
IT 149-30-4 628-66-0 9011-14-7 **38394-52-4**

(photopolymerizable compns. contg. ethylenically unsatd. compd., free radical-forming compd. and, bis(substituted amino) monosulfides and polysulfides as thermal polymn. inhibitors for)

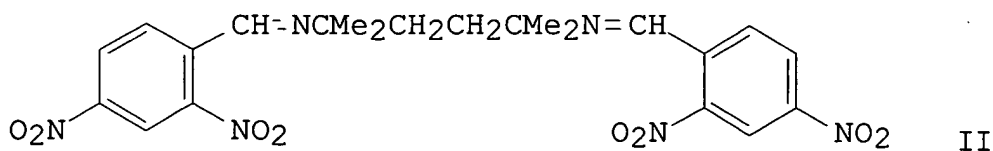
L38 ANSWER 13 OF 14 HCA COPYRIGHT 2004 ACS on STN

88:129061 Photopolymerizable masses for preparing positive or negative **images**. Pazos, Jose Francisco (du Pont de Nemours, E. I., and Co., USA). Ger. Offen. DE 2710417 19770929, 51 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1977-2710417 19770310.

GI



I



II

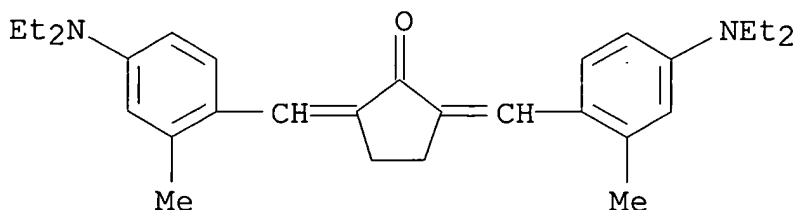
AB Photopolymerizable compns. for the prepn. of polymeric pos. and neg. **images** are composed of an addn. polymerizable nongas-forming ethylenically unsatd. compd., such as trimethylolpropane triacrylate, an arom. nitro compd. I ( $R = CH_2OH, CHO, CH:CH_2, PhN:CH, oxiranyl, iso-Pr, ClCH_2, ethylenedioxymethyl, p-Me_2NC_6H_4N:CH, 3,5-bis(ethoxycarbonyl)-4,6-dimethyl-1,4-dihydropyridin-4yl; R_1, R_2 = H, MeO$ ) or II, an org. radiation-sensitive free-radical-forming compd., such as 2,2'-bis(2-chlorophenyl)-4,4',5,5'-tetraphenylbiimidazole, and a polyacrylate or poly(.alpha.-alkylacrylate). Thus, a soln. contg. triethylene glycol dimethacrylate 1.05, a maleic anhydride-styrene copolymer iso-Pr ester (mol. wt. 1700, acid no. 270) 1.18, an acrylic acid-Et acrylate-Me methacrylate copolymer (mol. wt. 260,000, acid no. 76-85) 0.30, colloidal carbon 0.30, triethylene glycol diacetate 0.10, 2,2'-bis(2-chlorophenyl)-4,4',5,5'-tetrakis(3-methoxyphenyl)biimidazole 0.09, 2-mercaptobenzothiazole 0.009, 2,5-bis(4'-diethylamino-2'-methylbenzylidene)cyclopentanone 0.036, 2-nitro-5-methoxybenzyl alc. 0.054, .alpha.-phenylimino-2-nitrotoluene 0.054 g, and methylene chloride 12.7 mL was coated on a resin-coated poly(ethylene terephthalate) support to give a dry layer of 5.1 .mu. thickness. A top layer of poly(ethylene terephthalate) was then added. For a neg. **image** the material was exposed for 90 s through a .sqroot.2 step wedge with light having a wavelength  $>380$  nm. After exposure the top layer was removed and the nonpolymd. areas removed with an aq. alk. soln. Some 4 steps were visible. For a pos. **image** the material was exposed for 60 s through a step wedge with light having a wavelength  $<380$  nm and then developed as above. Some 7 steps were visible.

IT 38394-52-4

(photopolymerizable compns. contg. arom. nitro compd. photoinitiator and, for **photoimaging**)

RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-(9CI) (CA INDEX NAME)



IC G03C001-68

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic Processes)

ST arom nitro compd photoinitiator **photoimaging**; photoresist



arom nitro compd photoinitiator; printing plate photopolymer nitro compd

IT Nitro compounds

(arom., photoinitiators, for photopolymerizable compns. for **photoimaging**)

IT **Photoimaging** compositions and processes

(photopolymerizable, for pos. or neg. **images**, contg.

arom. nitro compds. as photoinitiators)

IT 9011-13-6 9011-14-7 25086-15-1 25135-39-1 65931-41-1

(binder, photopolymerizable compns. contg. arom. nitro compd. photoinitiator and, for **photoimaging**)

IT 58206-31-8

(**photoimaging** compns. contg.)

IT 528-75-6 552-89-6 579-71-5 879-55-0 1016-58-6 6526-72-3

15862-94-9 20357-25-9 21203-88-3 21829-26-5 33331-19-0

39830-70-1 48140-35-8 65907-71-3 65907-72-4 65907-73-5

65907-74-6

(photoinitiator, for photopolymerizable compns. for

**photoimaging**)

IT 109-16-0 1707-68-2 3524-68-3 15625-89-5 29777-36-4

**38394-52-4**

(photopolymerizable compns. contg. arom. nitro compd.

photoinitiator and, for **photoimaging**)

L38 ANSWER 14 OF 14 HCA COPYRIGHT 2004 ACS on STN

77:126241 Aromatic azides as crosslinking agents for **imaging**

systems. Wolff, Erich; Pelz, Willibald; Schulte, Walter; Seitz, Franz (Agfa-Gevaert A.-G.). Ger. Offen. DE 2064597 19720713, 11 pp. (German). CODEN: GWXXBX. APPLICATION: DE 1970-2064597 19701230.

GI For diagram(s), see printed CA Issue.

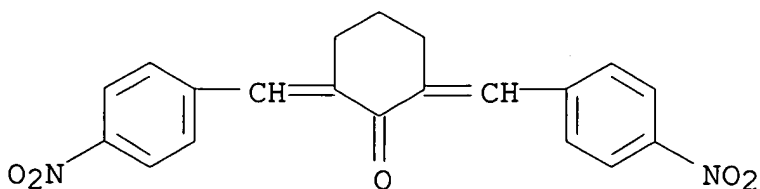
AB Bis(p-azidobenzal)cyclohexanone (I), 4-N3C6H4CH:CHCOC6H4R (R = 4-N3, 3-OMe, 4-OMe), (p-N3C6H4CH:CH)2CO, and p-N3C6H4(CH:CH)2CO2Et were prepd. from p-O2NC6H4CHO by condensation with an active CH2 group, redn. of the NO2 group(s) with H2NNH2 over Raney Ni, diazotization, and reaction with NaN3.

IT **10321-25-2P 38102-83-9P**

(prepn. of)

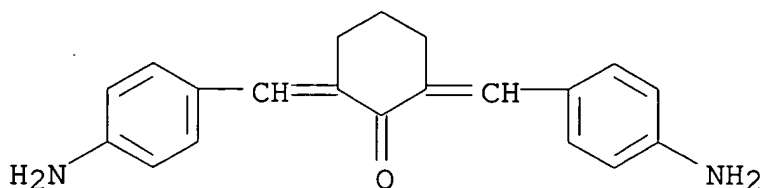
RN 10321-25-2 HCA

CN Cyclohexanone, 2,6-bis[(4-nitrophenyl)methylene]- (9CI) (CA INDEX NAME)



RN 38102-83-9 HCA

CN Cyclohexanone, 2,6-bis[(4-aminophenyl)methylene]- (9CI) (CA INDEX NAME)



IC C07B; C07C

CC 25-16 (Noncondensed Aromatic Compounds)  
Section cross-reference(s): 24, 40

IT 5284-80-0P 6552-67-6P **10321-25-2P** 14128-15-5P  
15542-23-1P 27934-58-3P 27934-59-4P 30278-80-9P 31235-98-0P  
35918-06-0P 37829-62-2P **38102-83-9P**  
(prepn. of)

=> d 136 1-15 cbib abs hitstr hitind

L36 ANSWER 1 OF 15 HCA COPYRIGHT 2004 ACS on STN

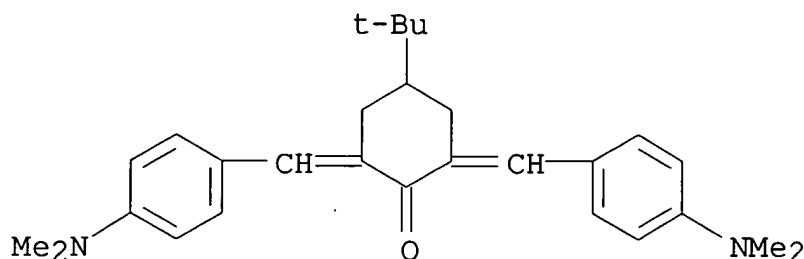
129:21467 Visible light curable solder resist **composition** and solder resist pattern formation. Tani, Motoaki; Machida, Hiroyuki; Hayashi, Shinsuke (Fujitsu Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 10115921 A2 19980506 Heisei, 12 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1997-30690 19970214. PRIORITY: JP 1996-218838 19960820.

AB The resist compn. comprises (1) a resin component contg. a novolak epoxy resin and a polyfunctional acrylic monomer, (2) a photopolymn. or crosslinking promoter component contg. a photopolymn. initiator, a **sensitizing** dye and a heterocyclic compd. having .gtoreq.2 N atoms, and (3) any diluent and other additives. The compn. shows enough sensitivity for thick film of solder resist.

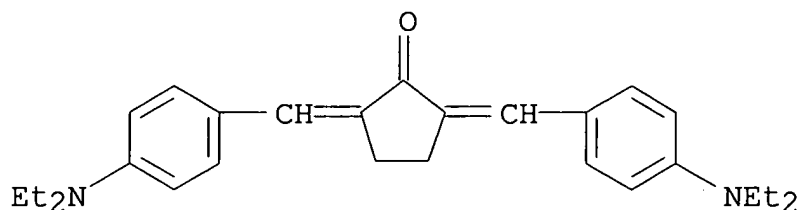
IT **96273-26-6**, 4-tert-Butyl-2,6-bis(4'-dimethylaminobenzylidene)cyclohexanone  
(**sensitizing** dye contained in visible light curable solder resist compn. for pattern formation)

RN 96273-26-6 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-(1,1-dimethylethyl)- (9CI) (CA INDEX NAME)



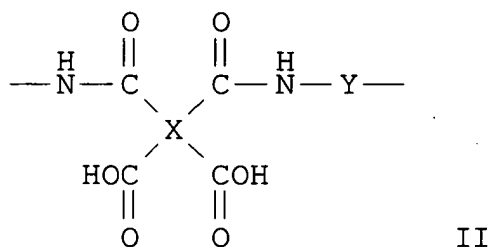
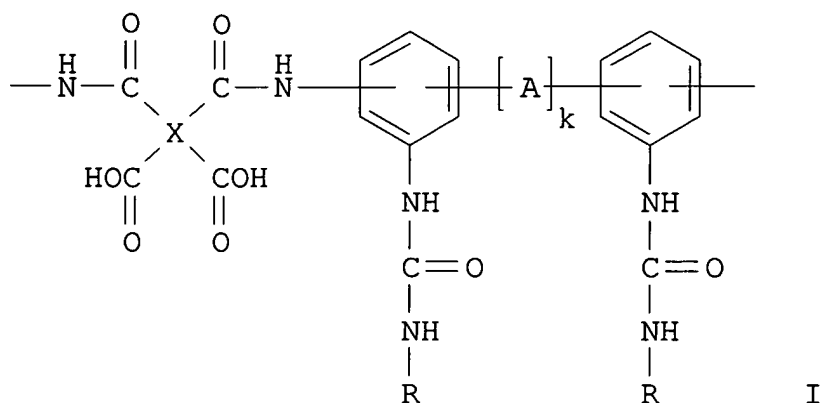
- IC ICM G03F007-038  
ICS C09D004-06; C09D163-00; G03F007-027; H05K003-28
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)  
Section cross-reference(s): 76
- IT 63226-13-1, 3,3'-Carbonyl bis-7-(diethylamino)coumarin 70503-39-8  
79579-93-4, 4-Butoxy phenyl-2,6-diphenylthiopyrylium perchlorate  
**96273-26-6**, 4-tert-Butyl-2,6-bis(4'-dimethylaminobenzylidene)cyclohexanone  
(**sensitizing** dye contained in visible light curable solder resist compn. for pattern formation)
- L36 ANSWER 2 OF 15 HCA COPYRIGHT 2004 ACS on STN  
126:67592 Photosensitive **composition** and recording medium for hologram and hologram formation. Yasuike, Madoka; Kano, Yoshinori (Toyo Ink Mfg Co, Japan). Jpn. Kokai Tokkyo Koho JP 08272284 A2 19961018 Heisei, 26 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1995-75283 19950331.
- AB The title photosensitive compn. comprises a F-contg. polymer A, a polymerizable group-bearing compd. B, a polymn. initiating system C activated by exposing to a chem. radiation ray, and a solvent D capable of dissolving B but not A which is dispersed in the solvent D. 8 Modifications of the photosensitive compn. and recording medium using the photosensitive compn. and hologram formation are also claimed.
- IT **38394-53-5**  
(**sensitizer** contained in photosensitive compn. for holog. recording medium and hologram formation)
- RN 38394-53-5 HCA  
CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC ICM G03H001-02  
ICS G03F007-004; G03F007-028  
CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
IT 12243-46-8 **38394-53-5** 60804-74-2 72939-79-8  
116527-14-1 145482-36-6 150214-66-7 159655-43-3 161054-99-5  
161128-37-6 162214-79-1 185035-93-2 185035-94-3 185035-95-4  
185035-96-5  
(**sensitizer** contained in photosensitive compn. for  
holog. recording medium and hologram formation)

L36 ANSWER 3 OF 15 HCA COPYRIGHT 2004 ACS on STN.  
123:354649 Photoresist **composition** with superior sensitivity  
and formation of patterned polyimide film using same. Kato, Hideto  
(Shinetsu Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo  
Koho JP 07196917 A2 19950801 Heisei, 10 pp. (Japanese). CODEN:  
JKXXAF. APPLICATION: JP 1993-352182 19931228.

GI



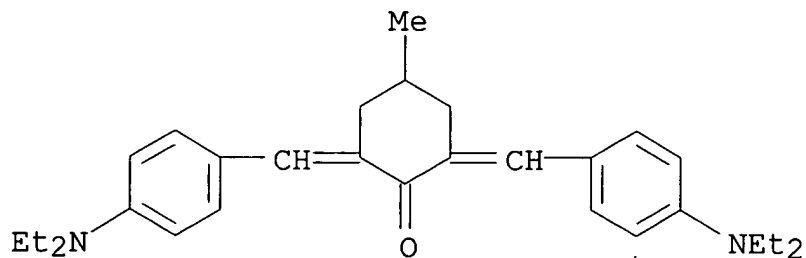
AB The title compn. comprises (A) a polyimide precursor contg. 30-95 mol% of I (X = arom. group; A = O, CO; R = C. lto req. 10 monovalent org. group contg. (meth)acryloxy; k = 0, 1) and 5-70 mol% of II (X is same as above; Y = divalent org. bearing arom. ring or siloxane bond) and (B) a **sensitizer** and /or a photopolymn. initiator.

IT **65446-47-1**

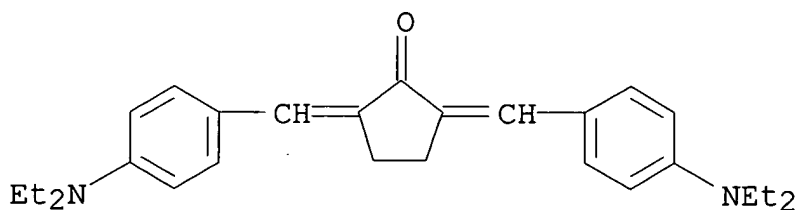
(**sensitizer** contained in photoresist compn. for formation of patterned polyimide film)

RN 65446-47-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]-4-methyl-(9CI) (CA INDEX NAME)



- IC ICM C08L079-08  
ICS G03F007-028; G03F007-038
- CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- IT 90-94-8, 4,4'-Bis(dimethylamino)benzophenone 63226-13-1  
65446-47-1 82799-44-8, 2,4-Diethyl thioxanthone  
(**sensitizer** contained in photoresist compn. for formation of patterned polyimide film)
- L36 ANSWER 4 OF 15 HCA COPYRIGHT 2004 ACS on STN  
119:37593 Photocrosslinkable resin **composition**, hologram recording medium, and hologram recording method. Yoshinaga, Yoko; Kobayashi, Shin; Matsumura, Susumu; Taniguchi, Naosato; Sudoh, Toshiyuki; Morishima, Hideki (Canon K. K., Japan). Eur. Pat. Appl. EP 523715 A1 19930120, 32 pp. DESIGNATED STATES: R: DE, FR, GB. (English). CODEN: EPXXDW. APPLICATION: EP 1992-112225 19920717. PRIORITY: JP 1991-203780 19910719; JP 1991-203781 19910719; JP 1991-348421 19911205.
- AB A photo-crosslinkable resin compn. comprises: (a) a polymer having an electron-donating group in a monomer unit; (b) a halogen compd.; and (c) at least one **sensitizer** selected from the group consisting of coumarin derivs., rhodamine derivs., thioxanthene derivs. and unsatd. ketone compds. The compn. can be used as a hologram recording medium.
- IT **38394-53-5**  
(photocrosslinkable holog. compn. contg.)
- RN 38394-53-5 HCA
- CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



- IC ICM G03F007-00  
ICS G03F007-029
- CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
- ST holog photocrosslinkable compn; **sensitizer** coumarin  
rhodamine thioxanthene; ketone **sensitizer** holog compn
- IT Holography  
(photocrosslinkable compn. for, **sensitizer** and polymer and onium compd. for)
- IT 536-17-4 24936-44-5 24936-50-3 24991-47-7 25067-59-8

38394-53-5 61358-25-6 62051-09-6 63226-13-1  
 70546-25-7 77819-86-4 77820-01-0 77831-38-0 84563-54-2  
 88735-62-0 102356-13-8 111329-06-7 117082-31-2 148441-54-7  
 148441-56-9 148441-58-1

(photocrosslinkable holog. compn. contg.)

L36 ANSWER 5 OF 15 HCA COPYRIGHT 2004 ACS on STN

118:244666 Photosensitive resin **composition** and hologram recording media and its recording. Kobayashi, Tatsu; Yoshinaga, Yoko (Canon Kk, Japan). Jpn. Kokai Tokkyo Koho JP 04368948 A2 19921221 Heisei, 8 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1991-171953 19910618.

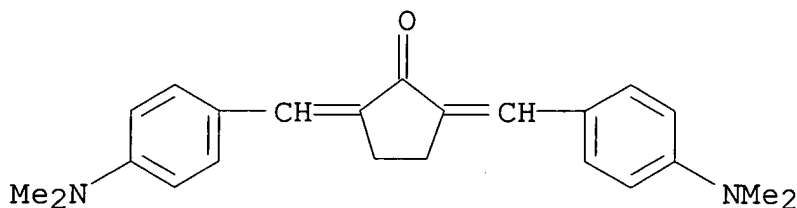
AB The compn. contains a vinylcarbazole-contg. polymer and a halo-contg. Si compd. R1R2R3R4Si [R2-4 = halo, H, (substituted) alkyl, cycloalkyl, OH, alkoxy, (substituted) aryl, aryloxy, alkylcarbonyl, alkoxy carbonyl, NH2, dialkylamino, NO2, CN; R1 and R2 may form a ring with Si; R1 = halo] as a crosslinking agent. The media contain the compn. The method exposing the media by an UV ray or a visible light.

IT 19226-99-4

(**photosensitized** pigment, photosensitive resin contg., for hologram recording)

RN 19226-99-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
 (CA INDEX NAME)



IC ICM G03F007-004

ICS G03F007-038; G03F007-075; G03H001-02

CC 74-8 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Crosslinking agents

(**photosensitized** pigment, photosensitive resin contg., for hologram recording)

IT 7789-66-4 10026-04-7 13465-72-0 13465-84-4 13510-43-5,

Silicon iodide (Si2I6) 18090-34-1 18162-40-8 19226-99-4

113739-12-1 147780-02-7 147780-03-8 147780-04-9 147780-05-0

(**photosensitized** pigment, photosensitive resin contg., for hologram recording)

L36 ANSWER 6 OF 15 HCA COPYRIGHT 2004 ACS on STN

116:72329 Photopolymerizing compositions. Yamashita, Katsuhiko; Imahashi, Satoshi (Toyobo Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 03210565 A2 19910913 Heisei, 9 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-5915 19900112.

GI

\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

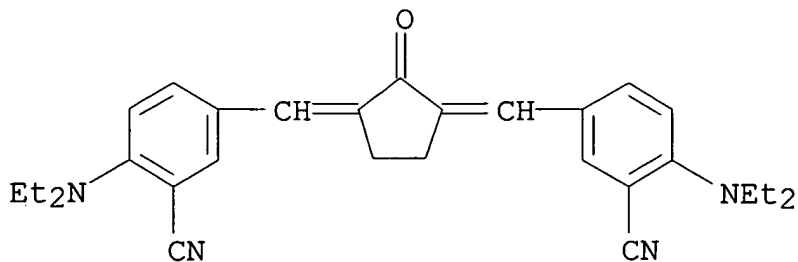
AB Title compns. contain (a) nongaseous ethylenic monomer, (b) Fe-arene complex I, and (c) p-aminophenyl unsatd. ketones II or III (m+n.gtoreq.0; R1-2 = substituents; R2 may constitute a part of a polynuclear structure including benzene ring; X = BF<sub>4</sub>, PF<sub>6</sub>, AsF<sub>6</sub>, SbF<sub>6</sub>, FeCl<sub>4</sub>, SnCl<sub>6</sub>, BiCl<sub>6</sub>; a = 0, 1; R3 = COR15, cyano, N+C5H5.Y-; R3 may form an alkylene group with R8; R15 = H, C1-24 group; Y- = anion; R4-7 = H, C1-24 group that may form condensed rings with benzene ring; R8 = H, C1-24 group that may form alkylene group with R15; R9-14 = H, C1-24 group; b, c = 0, 1; R16-17 = H, C1-24 group; R18-21 = H, C1-24 group including .gtoreq.1 group with Hammett .sigma. value .gtoreq.0; R22 = methylidyne, C1-5 alkylene-ylidene group that can form a ring with R23 and carbonyl group; R23 = group that forms indanone or tetralone ring with C, Ph, or with R23 and carbonyl group; R24 = IV; R25-29 = H, C1-24 group). These compns. have high sensitivity to vis. light. Thus, a PET film was coated with a compn. contg. Me methacrylate-methacrylic acid copolymer 52, tetraethylene glycol diacrylate 40, (.eta.-benzene)(.eta.-cyclopentadienyl)iron(II) PF<sub>6</sub> 5, V 3 parts and solvents and dried. A poly(vinyl alc.) overcoat layer was formed on this layer. Obtained material was highly sensitive to 490-nm light.

IT 138614-92-3

(sensitizer, high sensitivity photopolymg. compns. contg.)

RN 138614-92-3 HCA

CN Benzonitrile, 3,3'-[(2-oxo-1,3-cyclopentanediyldiene)dimethylidyne]bis[6-(diethylamino)- (9CI) (CA INDEX NAME)





IC ICM G03F007-031  
CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)  
ST photopolymerizing compn initiator **sensitizer**;  
photosensitive compn vis light sensitive  
IT Lithographic plates  
(photosensitive, high sensitivity to vis. light, initiator and  
**sensitizers** for)  
IT Resists  
(photo-, high sensitivity to vis. light, initiator and  
**sensitizers** for)  
IT 27004-11-1 34200-53-8 138614-91-2 **138614-92-3**  
138614-93-4  
(**sensitizer**, high sensitivity photopolymg. compns.  
contg.)

L36 ANSWER 7 OF 15 HCA COPYRIGHT 2004 ACS on STN  
116:48946 Photopolymerizing **compositions** sensitive to visible  
light. Yamashita, Katsuhiko; Imahashi, Satoshi (Toyobo Co., Ltd.,  
Japan). Jpn. Kokai Tokkyo Koho JP 03210566 A2 19910913 Heisei, 8  
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1990-7483  
19900116.

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\* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT \*

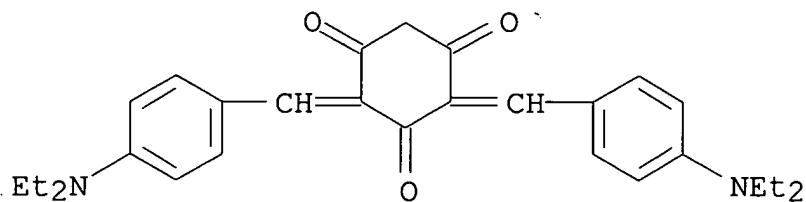
AB The title compns. contain (a) ethylenic monomer not in gas state at  
ordinary temp., (b) Fe-arene complex I ( $m + n \geq 0$ ; R1-2 =  
substituents; R2 may constitute a part of polynuclear structure  
including benzene ring; X = BF<sub>4</sub>, PF<sub>6</sub>, AsF<sub>6</sub>, SbF<sub>6</sub>, FeCl<sub>4</sub>, SnCl<sub>6</sub>,  
BiCl<sub>6</sub>), and (c) p-aminophenyl unsatd. ketones II (a, b = 0, 1; R3-14  
= H, Cl-24 group; X1-2 = substituents having carbonyl or cyano group  
that may be bonded with each other). These compns. have high  
sensitivity to visible light. Thus, a PET film was coated with a  
compn. contg. Me methacrylate-methacrylic acid copolymer 52,  
tetraethylene glycol diacrylate 40; (.eta.-benzene)(.eta.-  
cyclopentadienyl)iron(II) PF<sub>6</sub> 5, optional Ph-Gly-OH or  
2-methyl-1,3-cyclohexanedione 3, ketone III 3 parts and solvents,  
and dried. A poly(vinyl alc.) overcoat layer was formed on this  
layer. The obtained material was highly sensitive to 490-nm light.

IT **138369-57-0 138394-32-8**  
(**sensitizer**, high-sensitivity photopolymg. compns.  
contg.)

RN 138369-57-0 HCA

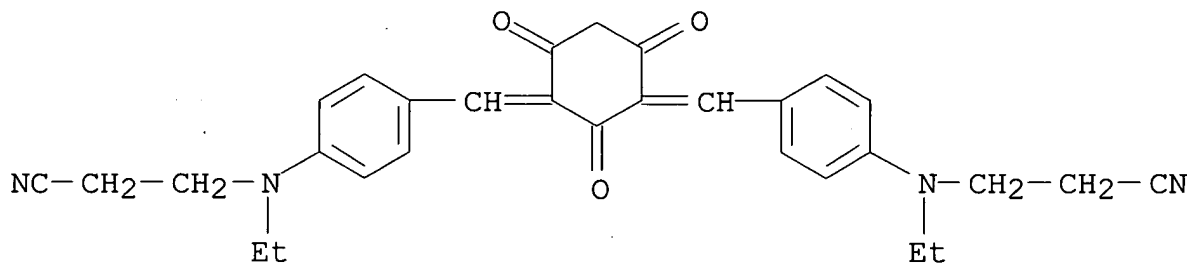
CN 1,3,5-Cyclohexanetrione, 2,6-bis[[4-(diethylamino)phenyl]methylene]-

(9CI) (CA INDEX NAME)



RN 138394-32-8 HCA

CN Propanenitrile, 3,3'-[(2,4,6-trioxo-1,3-cyclohexanediylidene)bis[methylidyne-4,1-phenylene(ethylimino)]]bis-  
(9CI) (CA INDEX NAME)



IC ICM G03F007-031

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

ST photopolymerizing compn initiator **sensitizer**;  
photosensitive compn visible light sensitive; photoresist visible  
light initiator **sensitizer**

IT Lithographic plates  
(photosensitive, with high sensitivity to visible light,  
initiators and **sensitizers** for)

IT Resists  
(photo-, high sensitivity to visible light, initiators and  
**sensitizers** for)

IT 138369-57-0 138369-58-1 138394-32-8  
(**sensitizer**, high-sensitivity photopolyimg. compns.  
contg.)

L36 ANSWER 8 OF 15 HCA COPYRIGHT 2004 ACS on STN

114:218098 Photopolymerizable **compositions**. Imahashi,  
Satoshi; Nakamura, Satoshi (Toyobo Co., Ltd., Japan). Jpn. Kokai  
Tokkyo Koho JP 02157760 A2 19900618 Heisei, 12 pp. (Japanese).  
CODEN: JKXXAF. APPLICATION: JP 1988-312747 19881210.

AB The title photopolymerizable compn. comprises .gtoreq.1 mm-gaseous  
ethylenic compds., tetraorganoborate, a 3-substituted coumarin

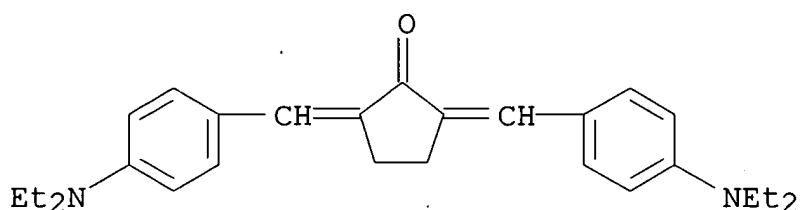
and(or) a pyridine deriv. or its salt and(or) a p-aminophenyl unsatd. ketone and(or) a xanthene or thioxanthene and(or) a pyrylium salt, a thiopyrylium salt, or a selenopyrylium salt. The compn. shows good sensitivity in the visible region of the spectrum, and is useful in printing, copying, and in resist prepn.

IT 38394-53-5 80601-02-1 127371-22-6

(sensitizer, photoresist compn. contg.)

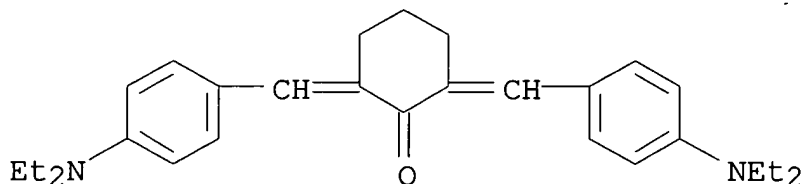
RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



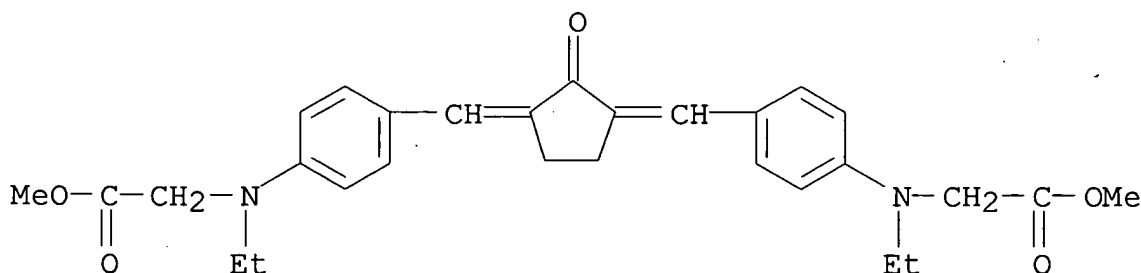
RN 80601-02-1 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



RN 127371-22-6 HCA

CN Glycine, N,N'-[(2-oxo-1,3-cyclopentanediyldiene)bis(methyldiyl-4,1-phenylene)]bis[N-ethyl-, dimethyl ester (9CI) (CA INDEX NAME)



IC ICM G03F007-031

ICS C08F002-50

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and

Other Reprographic Processes)

IT Resists

(photo-, photopolymn. initiator, and **sensitizer** for)

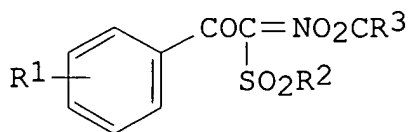
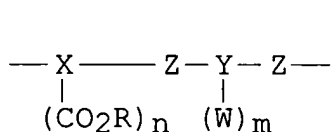
IT 1612-64-2 5397-61-5 14121-47-2 18096-82-7 27425-55-4  
 36245-88-2 38215-36-0 **38394-53-5** 61445-93-0  
 63226-13-1 **80601-02-1** 102355-72-6 102355-84-0  
**127371-22-6** 132736-95-9 132736-96-0 132736-98-2  
 133832-20-9

(**sensitizer**, photoresist compn. contg.)

L36 ANSWER 9 OF 15 HCA COPYRIGHT 2004 ACS on STN

110:240210 Photosensitive resin **compositions** containing  
 polyamic acid esters and oxime compounds. Suga, Nobuhiko; Ikeda,  
 Akihiko; Ai, Hideo (Asahi Chemical Industry Co., Ltd., Japan). Jpn.  
 Kokai Tokkyo Koho JP 63010612 A2 19880118 Showa, 17 pp. (Japanese).  
 CODEN: JKXXAF. APPLICATION: JP 1986-152609 19860701.

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II

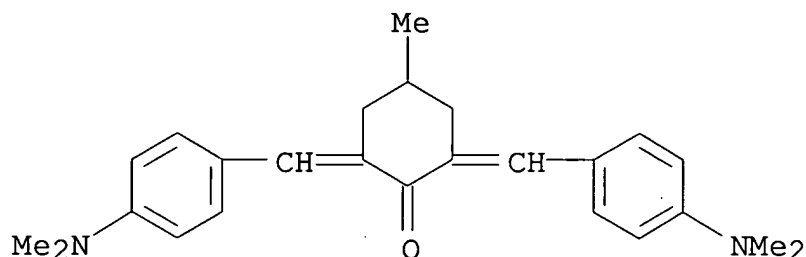
AB The title photosensitive resin compns. contain a polymer with  
 repeating units I [(X = (2+n)-valent carbocycle or heterocycle  
 moiety; Y = (2+m)-valent carbocycle or heterocycle moiety; Z = CONH,  
 NHCONH, O2CNH; R = alkene moiety; W = group capable of reacting with  
 the CO2R group to form a ring; n = 1,2; m = 0,1,2; CO2R group is at  
 o- or p-position with respect to Z position], an oxime compd. of the  
 formula II (R1 = H, C1-6 alkyl, C1-6 alkoxy, NO2; R2 = C1-6 alkoxy,  
 C6-10 aryl, C6-10 aryloxy), and a **sensitizer** whose  
 absorption max. wavelength is 250-500 nm. Cured patterns from the  
 photosensitive resin compns. have excellent heat-resistance. Thus,  
 an ester of 4,4'-diaminodiphenyl ether-pyromellitic dianhydride  
 copolymer with 2-hydroxyethyl methacrylate 100, PhCOC(SO2Me):NO2CPh  
 3, and Michlers ketone 3 parts were mixed to give a photosensitive  
 resin compn. having good sensitivity.

IT **65446-46-0**

(**sensitizer**, for polyamic acid ester-based photoresist  
 compns.)

RN 65446-46-0 HCA

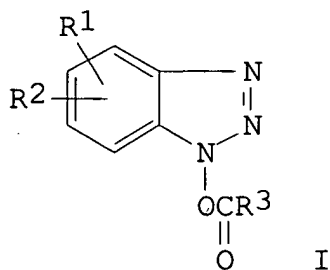
CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl-  
 (9CI) (CA INDEX NAME)



IC ICM C08F299-00  
 ICS C08F002-48; C08F299-02; G03C001-00; G03C001-68; G03C001-71  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT 90-93-7, 4,4'-Bis(diethylamino)benzophenone 90-94-8, Michler's  
 ketone 91-44-1 120-07-0, n-Phenyldiethanolamine 1161-22-4,  
 4,4'-Bis(dimethylamino)chalcone 1628-58-6 5706-20-7 6673-14-9  
 63226-13-1 **65446-46-0**  
 (sensitizer, for polyamic acid ester-based photoresist  
 compns.)

L36 ANSWER 10 OF 15 HCA COPYRIGHT 2004 ACS on STN  
 109:139168 Heat-resistant polyamide photosensitive **composition**  
 for photoresist. Suga, Nobuhiko; Ikeda, Akihiko; Ai, Hideo (Asahi  
 Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP  
 62273260 A2 19871127 Showa, 14 pp. (Japanese). CODEN: JKXXAF.  
 APPLICATION: JP 1986-114655 19860521.

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AB A heat-resistant photosensitive compn. which is useful as a  
 photoresist consists of (1) a polymer having a repeating unit of  
 $X(CO_2R)nZY(W)mZ$  [X = (2 + n) valent C cyclic or heterocyclic group;  
 Y = (2 + m) valent C cyclic or heterocyclic group; Z = CONH, NHCONH,  
 OCONH; R = group having C-C double bond; W = group which may form a  
 cyclic group by reaction with  $CO_2R$ ; n = 1, 2; m = 0-2; the position

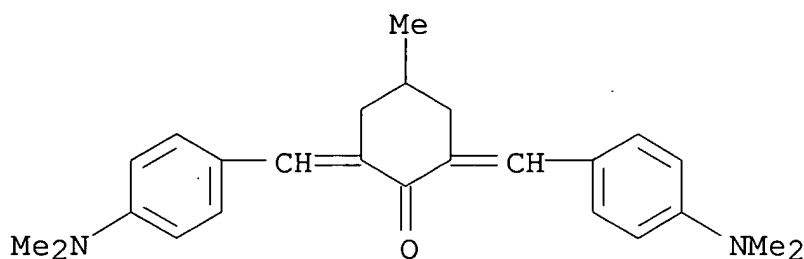
between CO<sub>2</sub>R and Z may be ortho or para], (2) a triazole compd. I [R<sub>1</sub>, R<sub>2</sub> = H, C1-4 alkyl, C1-4 alkoxy; R<sub>3</sub> = C1-6 alkyl, C1-6 alkoxy, C6-10 arom. hydrocarbyl, C6-10 aryloxy], and (3) a spectral **sensitizer** with an absorption peak of 250-500 nm. The photosensitive compn. shows enhanced photosensitivity.

IT **65446-46-0**

(**sensitizer**, photosensitive compn. contg.)

RN 65446-46-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl-  
(9CI) (CA INDEX NAME)



IC ICM C08L079-08

ICS C08L079-04

ICA C08F002-50; C08F299-02; C08F299-06; G03C001-71; G03F007-10

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT Polyamides, uses and miscellaneous  
(photosensitive compns. contg. triazole deriv. and **sensitizer** and)

IT Resists  
(photo-, contg. polyamide and triazole deriv. and **sensitizer** with enhanced photosensitivity)

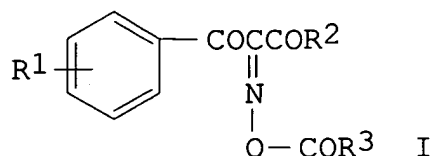
IT 90-93-7, 4,4'-Bis(diethylamino)-benzophenone 90-94-8, Michler's ketone 91-44-1, 7-Diethylamino-4-methylcoumarin 120-07-0, N-Phenyl-diethanolamine 1161-22-4 1628-58-6 6673-14-9 25731-50-4 63226-13-1, 3,3'-Carbonyl-bis(7-diethylaminocoumarin) **65446-46-0**

(**sensitizer**, photosensitive compn. contg.)

L36 ANSWER 11 OF 15 HCA COPYRIGHT 2004 ACS on STN

109:83463 Photosensitive **composition** for photoresist. Suga, Nobuhiko; Ikeda, Akihiko; Takahashi, Hideaki (Asahi Chemical Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62273259 A2 19871127 Showa, 15 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-113595 19860520.

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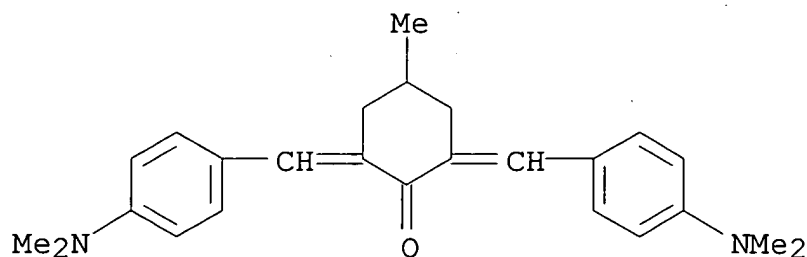
AB A photosensitive compn. for a photoresist consists of (1) a polymer having a repeating unit of  $-X(COOR)_nZY(W)_mZ-$  [ $X = (2 + n)$  valent C cyclyl group or heterocyclyl group;  $Y = (2 + m)$  valent C cyclyl group or heterocyclyl group;  $Z = CONH, NHCONH, OCONH$ ;  $R = C-C$  double bond;  $W =$  group which reacts with the  $COOR$  upon heating to form a ring;  $n = 1, 2$ ;  $m = 0-2$ ; the position of  $COOR$  and  $Z$  may be at ortho or para], (2) an oxime compd. I [ $R_1 = H, C1-6$  alkyl,  $C1-6$  alkoxy,  $NO_2$ ;  $R_2 = C1-6$  alkyl,  $C1-6$  alkoxy,  $C6-10$  aryloxy;  $R_3 = C1-6$  alkyl,  $C1-6$  alkoxy,  $C6-10$  arom. hydrocarbonyl,  $C6-10$  aryloxy], and (3) a **photosensitizer** having a max. absorption peak of 250-500 nm. The photosensitive compn. shows good heat resistance and high sensitivity, even when it is used as a thick layer.

IT 65446-46-0

(photosensitive compn. contg., for photoresist)

RN 65446-46-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl- (9CI) (CA INDEX NAME)



IC ICM C08L079-08

ICS C08L079-04

ICA C08F002-50; C08F299-02; C08F299-06; G03C001-00; G03C001-71

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 69280-29-1 102610-67-3 113561-72-1 115489-11-7

(photosensitive compn. contg. oxime compd. and **sensitizer** and, for photoresist)

IT 90-93-7, 4,4'-Bis-(diethylamino)-benzophenone 90-94-8, Michler's ketone 91-44-1, 7-Diethylamino-4-methylcoumarin 120-07-0 1628-58-6 6673-14-9 53950-71-3 63226-13-1, 3,3'-Carbonyl-bis(7-diethylaminocoumarin) **65446-46-0**

114478-02-3 114478-03-4 115685-24-0 115685-25-1 115685-26-2  
115685-27-3

(photosensitive compn. contg., for photoresist)

L36 ANSWER 12 OF 15 HCA: COPYRIGHT 2004 ACS on STN

108:177217 Photosensitive resin **compositions**. Suga, Nobuhiko;  
Ai, Hideo; Ikeda, Akihiko (Asahi Chemical Industry Co., Ltd.,  
Japan). Jpn. Kokai Tokkyo Koho JP 62215263 A2 19870921 Showa, 13  
pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP 1986-57094  
19860317.

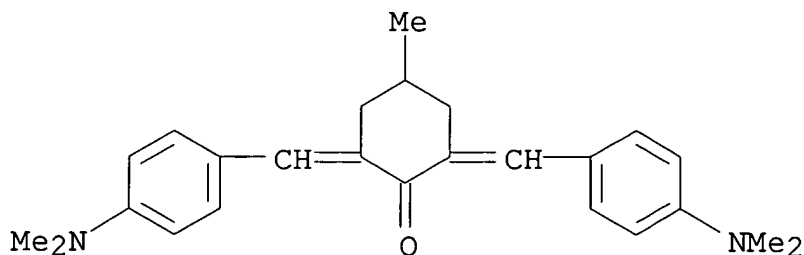
AB The title photosensitive compns. contain (1) a polymer having  
repeating units of the formula  $X(CO_2R)_nZY(N)_mZ$  [ $X = (2 + n)$ -valent  
cyclic moiety;  $Y = (2 + m)$ -valent cyclic moiety;  $Z = CONH, NHCONH,$   
 $O_2CNH$ ;  $R =$  a moiety having C-C double bond;  $W =$  group capable of  
reacting with  $CO_2R$  group (upon heating) to form a ring;  $n = 1, 2$ ;  $M =$   
 $0, 1, 2$ ;  $CO_2R$  and  $Z$  are in o- or p-positions to each other], (2) a  
diketone ester of the formula  $R_1C_6H_4COCOCOR_2$  ( $R_1 = H, C1-4$  alkyl,  
 $C1-4$  alkoxy;  $R_2 = C1-6$  alkyl,  $C1-6$  alkoxy,  $C6-10$  aryl,  $C6-10$   
aryloxy), and (3) a **sensitizer** whose  $\lambda_{max}$  is  
250-500 nm. The photosensitive resin compns. are useful for forming  
heat-resistant patterns. Thus, 4,4'-diaminodiphenyl  
ether-pyromellitic dianhydride copolymer 2-hydroxyethyl methacrylate  
ester,  $PhCOCOCOPh$ , Michler's ketone, 3-  
methacryloyloxypropyltrimethoxysilane, and N-nitrosodiphenylamine  
were mixed to give a photosensitive compn. having good sensitivity.

IT **65446-46-0**

(photoresist compn. contg., for heat-resistant pattern formation)

RN 65446-46-0 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl-  
(9CI) (CA INDEX NAME)



IC ICM G03C001-71

ICA C08F002-50; C08F299-02; C08K005-17; C08L079-08; C08L101-08

CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
Other Reprographic Processes)

Section cross-reference(s): 76

IT 86-30-6, N-Nitrosodiphenylamine 86-93-1, 1-Phenyl-5-mercapto-1H-  
tetrazole 90-93-7, 4,4'-Bis(diethylamino)benzophenone 90-94-8,



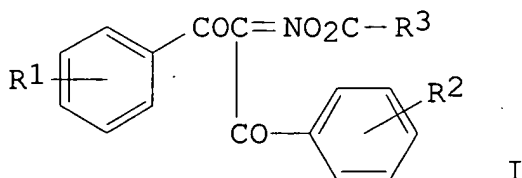
Michler's ketone 91-44-1, 7-Diethylamino-4-methylcoumarin  
 98-29-3 110-26-9, Methylenebisacrylamide 120-07-0,  
 N-Phenyldiethanolamine 149-30-4, 2-Mercaptobenzothiazole  
 583-39-1 1161-22-4, 4,4'-Bis(dimethylamino)chalcone 1628-58-6  
 2530-85-0 2897-60-1, Diethoxy-3-glycidyloxypropylmethyilsilane  
 6673-14-9 14513-34-9 15625-89-5 17831-71-9 25731-50-4  
 63226-13-1, 3,3'-Carbonylbis(7-diethylaminocoumarin)  
**65446-46-0** 69280-29-1 79632-89-6 110539-99-6  
 110540-00-6 113931-75-2 113931-76-3 113931-77-4 113931-78-5  
 113931-79-6

(photoresist compn. contg., for heat-resistant pattern formation)

L36 ANSWER 13 OF 15 HCA COPYRIGHT 2004 ACS on STN

108:122025 Photoresist **composition** yielding thermally-stable  
 polymer. Suga, Nobuhiko; Ikeda, Akihiko; Ai, Hideo (Asahi Chemical  
 Industry Co., Ltd., Japan). Jpn. Kokai Tokkyo Koho JP 62184056 A2  
 19870812 Showa, 16 pp. (Japanese). CODEN: JKXXAF. APPLICATION: JP  
 1986-25791 19860210.

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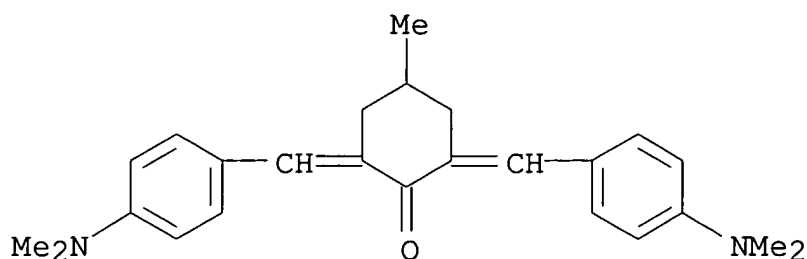
AB A photosensitive compn. contains a polymer with the repeating unit  
 $-X(CO_2R)_nZY(W)_mZ-$  [X = (2 + n) valent C ring or heterocycle Y = (2 +  
 m) valent C ring or heterocycle; Z = CONHNHCONH, O<sub>2</sub>CNH, R = a C-C  
 double bond-contg. group; W = group capable of forming a ring on  
 reacting with the carbonyl group of CO<sub>2</sub>R upon heating; n = 1, 2; m =  
 0, 1, 2; CO<sub>2</sub>R and Z may be in positions ortho or peri to each  
 other], an oxime of the formula I [R<sub>1</sub>, R<sub>2</sub> = H, C<sub>1</sub>-6 alkyl, C<sub>1</sub>-6  
 alkoxy, NO<sub>2</sub>; R<sub>3</sub> = C<sub>1</sub>-6 alkyl, C<sub>1</sub>-6 alkoxy, C<sub>6</sub>-10 arom. hydrocarbon,  
 C<sub>6</sub>-10 aryloxy], and a **sensitizer** with an absorption peak  
 at 250-500 nm. Heat treatment converts the photoresist to a  
 heat-resistant polymer. The photoresist is useful in semiconductor  
 device fabrication.

IT **65446-46-0**

(**sensitizers**, photoresist compn. contg., heat-stable)

RN 65446-46-0 HCA

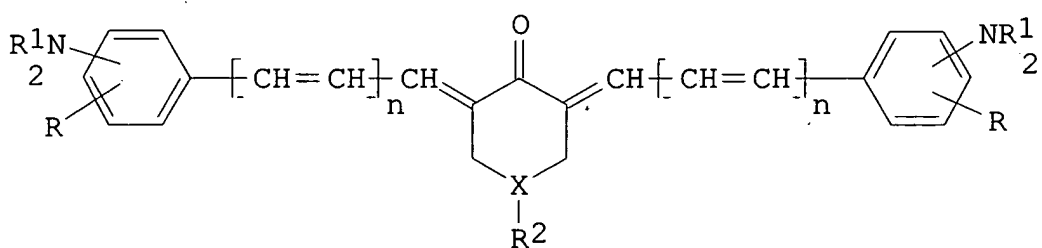
CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-methyl-  
 (9CI) (CA INDEX NAME)



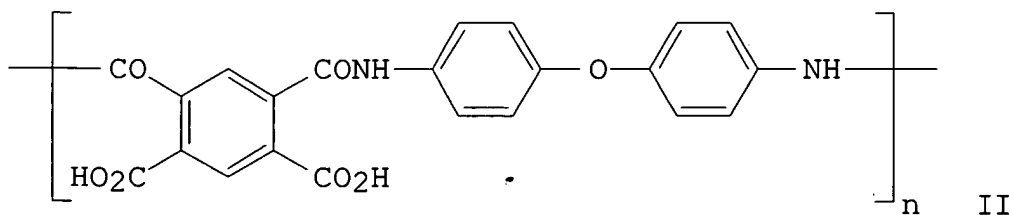
IC ICM C08L079-08  
 ICS C08F002-50; C08F299-02; C08K005-33; G03C001-68; G03C001-71  
 CC 74-5 (Radiation Chemistry, Photochemistry, and Photographic and  
 Other Reprographic Processes)  
 IT 90-93-7 90-94-8 91-44-1 120-07-0 1161-22-4 1628-58-6  
 6673-14-9 63226-13-1 **65446-46-0** 113410-21-2  
 (sensitizers, photoresist compn. contg., heat-stable)

L36 ANSWER 14 OF 15 HCA COPYRIGHT 2004 ACS on STN  
 101:172399 **Sensitization** of photosensitive polymer  
**compositions.** (Hitachi, Ltd., Japan; Hitachi Chemical Co.,  
 Ltd.). Jpn. Kokai Tokkyo Koho JP 59084936 A2 19840516 Showa, 6 pp.  
 (Japanese). CODEN: JKXXAF. APPLICATION: JP 1982-193486 19821105.

GI



I



II

AB I (R, R1 = lower alkyl; X = CH, N; R2 = OH, ZOH, OR3, CO2H, CO2R4,

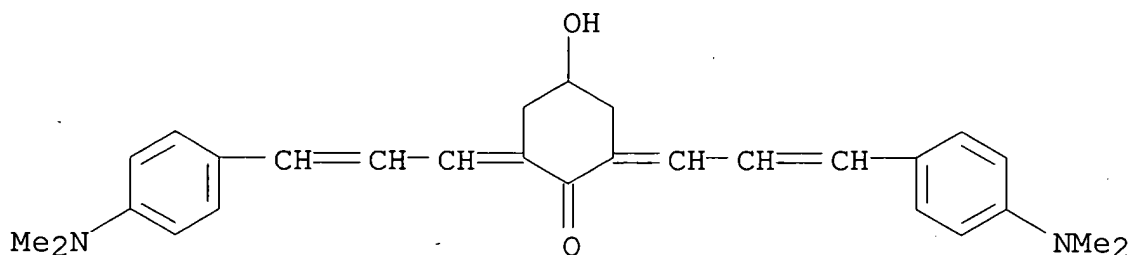
CO<sub>2</sub>R<sub>3</sub>, NH<sub>2</sub>, NR<sub>2</sub><sub>3</sub>, when X is CH; R<sub>2</sub> = H, COR<sub>3</sub>, R<sub>3</sub>, CO<sub>3</sub>R<sub>3</sub>. when X is N; Z = lower alkylene; R<sub>3</sub> = lower alkyl; R<sub>4</sub> = alkali metal; n = 0, 1) are **photosensitizers** having high soly. in polar solvents and excellent compatibility with polar polymers. Thus, 2 g II [9043-05-4] and 2.3 g 2-(dimethylamino)ethyl p-azidobenzoate [84389-35-5] were dissolved in N-methyl-2-pyrrolidone to give 20 g soln. which was stirred with 0.5 g 2,6-bis[p-(dimethylamino)cinnamylidene]-4-hydroxycyclohexanone [92520-30-4] for 30 min, filtered, spin-coated on a silicon wafer, and baked at 90.degree. for 30 min to give a 2 .mu.m coating which could be UV-cured with high sensitivity.

IT 92520-30-4 92520-32-6

(sensitizers, for photocurable polymer compns.)

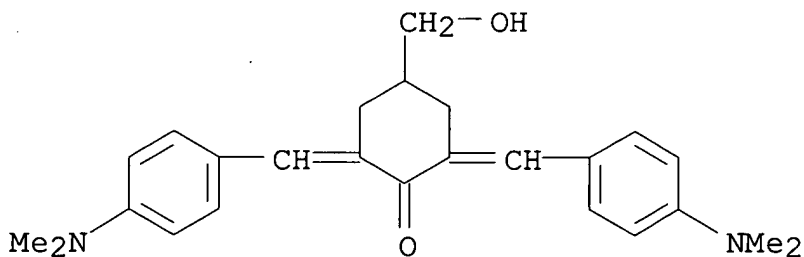
RN 92520-30-4 HCA

CN Cyclohexanone, 2,6-bis[3-[4-(dimethylamino)phenyl]-2-propenylidene]-4-hydroxy- (9CI) (CA INDEX NAME)



RN 92520-32-6 HCA

CN Cyclohexanone, 2,6-bis[[4-(dimethylamino)phenyl]methylene]-4-(hydroxymethyl)- (9CI) (CA INDEX NAME)



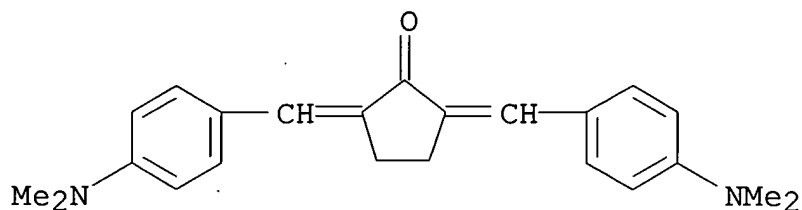
IC C08K005-04; C08K005-34; G03C001-71; G03F007-08

CC 37-6 (Plastics Manufacture and Processing)

Section cross-reference(s): 74

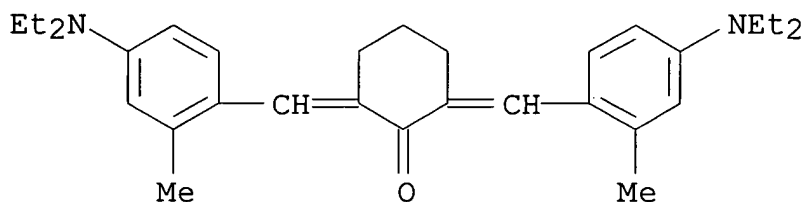
ST photoresist azide crosslinked **photosensitizer**;  
cinnamylidenecyclohexanone **photosensitizer** polyamic acid;  
**sensitizer** photocurable polymer cyclohexanone deriv;  
polyamic acid azide crosslinked **photosensitizer**

- IT Polyamic acids  
(photoresists, with azide crosslinking agents,  
**photosensitizers** for)
- IT Resists  
(photo-, **photosensitizers** for,  
bis(aminoarylalkylidene)cyclohexanone and piperidinone derivs.  
as)
- IT 9043-05-4 24980-39-0 55478-71-2  
(photoresists, with azide crosslinking agents,  
**photosensitizers** for)
- IT 84389-35-5  
(polyamic acids contg., **photosensitizers** for)
- IT 92520-30-4 92520-31-5 92520-32-6 92520-33-7  
(**sensitizers**, for photocurable polymer compns.)
- L36 ANSWER 15 OF 15 HCA COPYRIGHT 2004 ACS on STN  
77:27427 Photoactivatable **compositions**. Baum, Martin D.;  
Henry, Cyrus P., Jr. (du Pont de Nemours, E. I., and Co.). Ger.  
Offen. DE 2133515 19720113, 44 pp. (German). CODEN: GWXXBX.  
APPLICATION: DE 1971-2133515 19710706.
- GI For diagram(s), see printed CA Issue.
- AB Photoactivatable compns. that can be utilized as light filters or  
photooxidn. or photopolymn. initiators are composed of a  
hexaarylbiimidazole whose principal radiation absorption bands are  
in the uv region of the spectrum and which dissocs. into  
triarylimidazolyl radicals on uv irradiation, and a **sensitizing**  
bis(p-aminophenyl)-.alpha.,.beta.-unsatd. ketone (I), where R1 and  
R2 are alkyl or H; R3 is H, alkyl, Cl, or MeO; R4 and R5 are H,  
alkyl, or R4R5 is CH2CH2, CH2CH2CH2, or CH2CH2CH2CH2; n = 0, 1, and  
in which I has its main absorption bands in the visible region.  
Thus, a Mylar film coated with a soln. contg. cellulose acetate  
butyrate 13.2, 2,2'-bis(o-chlorophenyl)-4,4',-5,5'-tetrakis(m-  
methoxyphenyl)biimidazole 3, 2-mercaptobenzoxazole 0.1, I (R1 and R2  
are Et, R3 is H, (R4R5) is CH2CH2, n = 0) (II) 0.05 g, and  
triethylene glycol dimethacrylate 12.5 ml is covered with a  
polyester film and exposed to filtered radiation of 366 and 430 nm.  
The exposure time for complete photopolymn. for irradiation at 366 and  
430 nm is 2 and 2 sec, resp., vs. 8 and 2 sec, resp., for a II-free  
control.
- IT 19226-99-4 38394-50-2 38394-52-4  
38394-53-5  
(**photosensitizer**, for photoactivatable compns. contg.  
hexaarylbiimidazole)
- RN 19226-99-4 HCA
- CN Cyclopentanone, 2,5-bis[[4-(dimethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



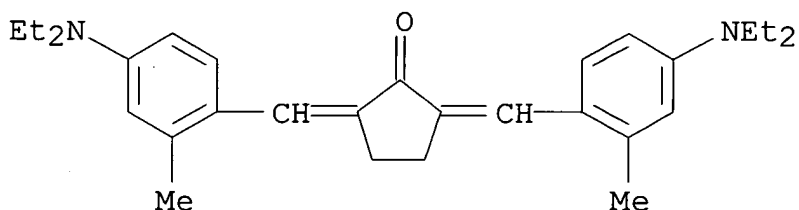
RN 38394-50-2 HCA

CN Cyclohexanone, 2,6-bis[[4-(diethylamino)-2-methylphenyl]methylene]-  
(9CI) (CA INDEX NAME)



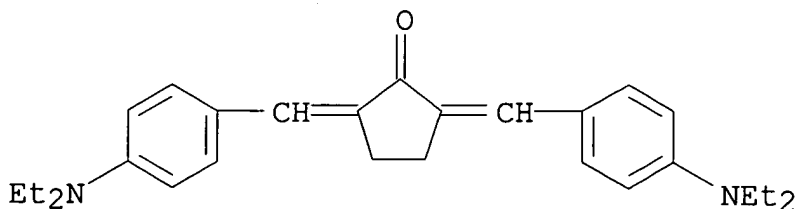
RN 38394-52-4 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)-2-methylphenyl]methylene]-  
(9CI) (CA INDEX NAME)



RN 38394-53-5 HCA

CN Cyclopentanone, 2,5-bis[[4-(diethylamino)phenyl]methylene]- (9CI)  
(CA INDEX NAME)



IC G03C

CC 74-4 (Radiation Chemistry, Photochemistry, and Photographic  
Processes)

ST ketone hexaarylbiimidazole photopolymn **sensitizer**; polymn  
photo **sensitizer**; filter layer photopolymers; biimidazole  
hexaaryl photopolymn **sensitizer**  
IT 19226-99-4 38394-50-2 38394-52-4  
38394-53-5  
(**photosensitizer**, for photoactivatable compns. contg.  
hexaarylbiimidazole)